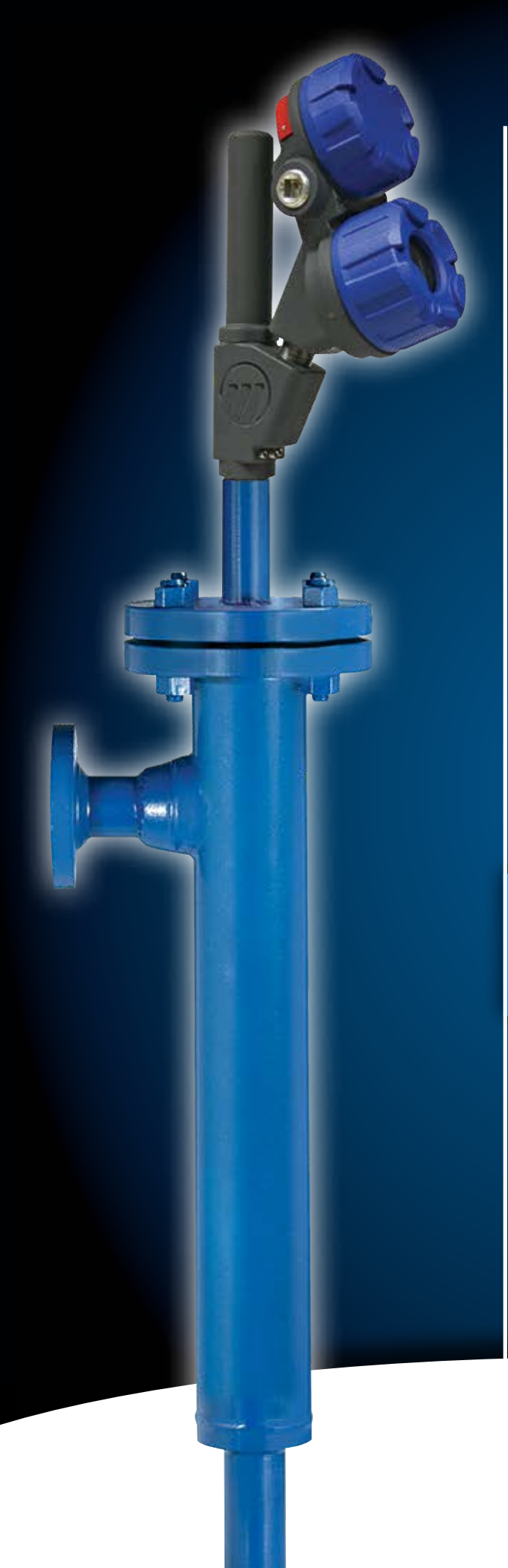

Get one thing straight

Digital E3 MODULEVEL®
Liquid Level Displacer Transmitter

Outstanding output stability, structural integrity and ease of use make range spring technology a better level control solution than torque tubes.

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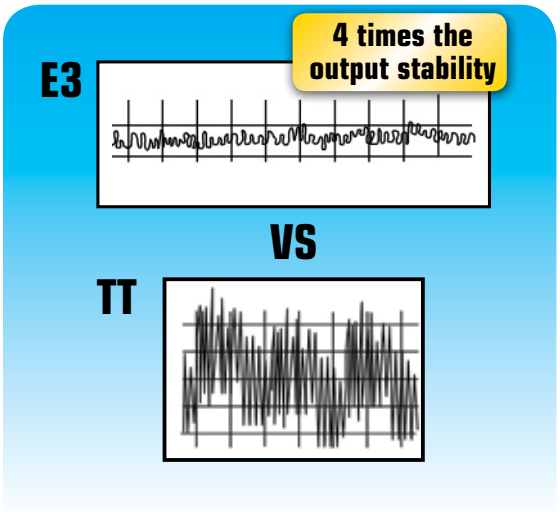
Avoid the twists and turns of torque tube technology, which can't equal the performance, durability and ease of use of a range spring. The E3 MODULEVEL linear variable differential transformer (LVDT) transmitter, with range spring technology, is the straightforward choice for accurate, reliable liquid level measurement and control.

Technology

- Changing buoyancy forces caused by liquid level variation act upon the range-spring-supported displacer, causing vertical motion of the core within a linear variable differential transformer (LVDT). As the core position changes, voltages are induced across the secondary windings of the LVDT. These signals are processed in the electronic circuitry and converted to a usable output signal. The enclosing tube acts as a static isolation barrier between the LVDT and the process media.

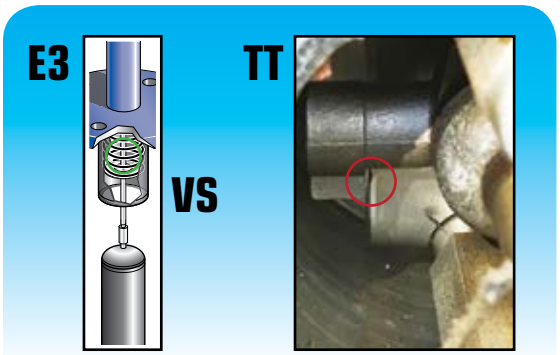
Performance



Output Stability

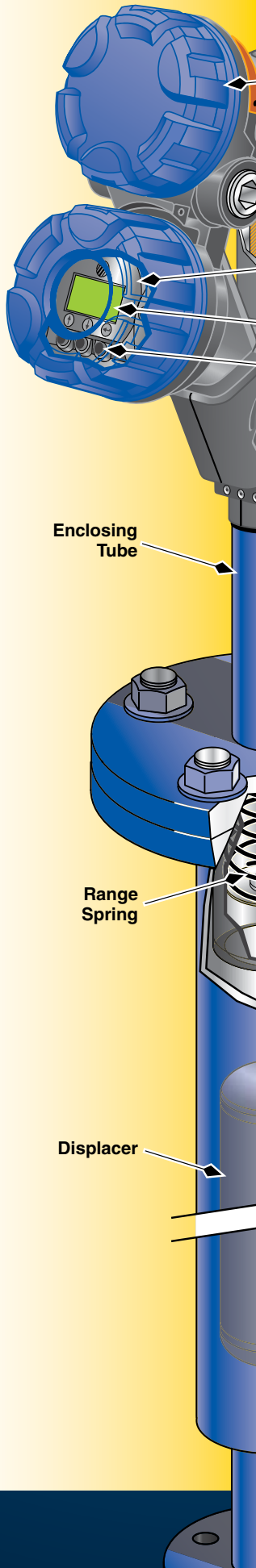
- The range spring's longer travel zone and dampening effect yields an output signal that is 4 times more stable than that of the torque tube.
- The smooth vertical motion of the range spring and LVDT core contribute to an output signal that is 6 times more linear and 20 times more repeatable than the torque tube.
- Oversensitivity of the torque tube makes the E3 MODULEVEL, whose range spring dampens the effects of vibration, agitation and turbulence, the preferred level control for stability in the toughest applications.
- With an output produced by sensor motion of 1.25" (32mm), versus just 0.63" (16mm) for a torque tube, the E3 MODULEVEL produces an output that is much more stable. A stable signal means extended valve life and less wear.

Structural Integrity



Frictionless Movement

- The knife-edge bearings that support the torque tube at each end are points of wear and friction buildup as the tube twists against them. The range spring movement is free of both the threat of wear and the opportunity for friction, which may cause inaccuracy in the measurement.



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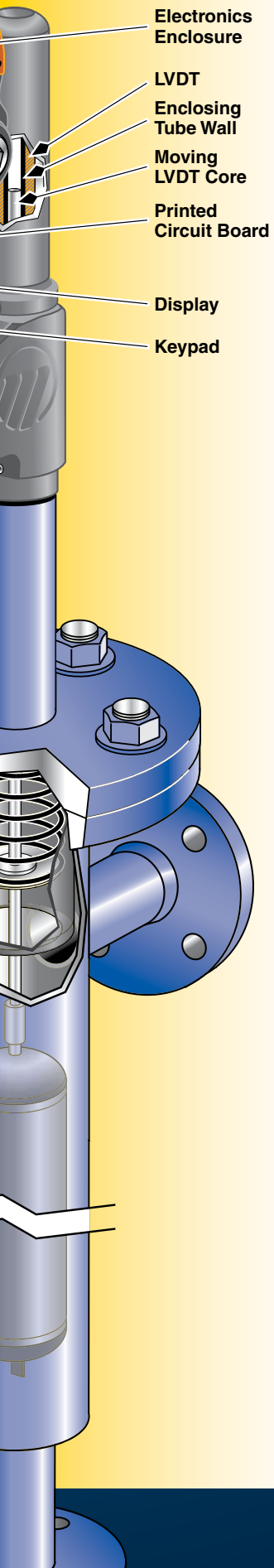
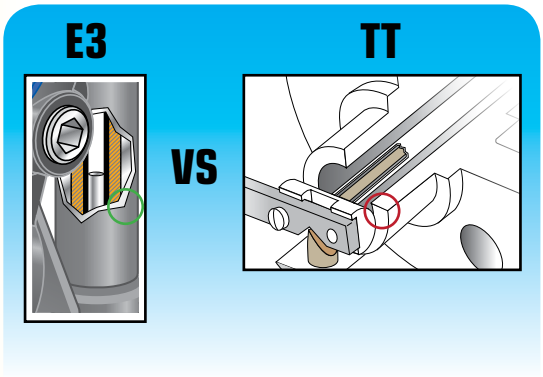
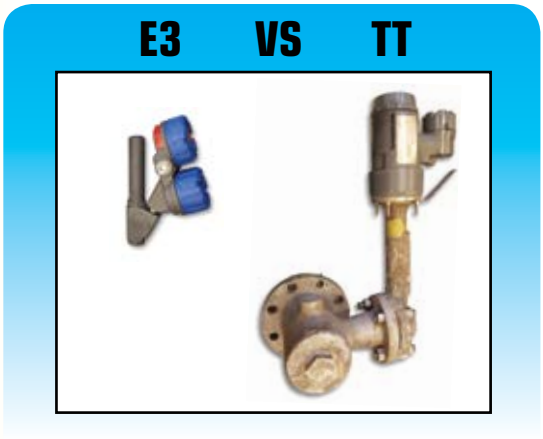




Pressure Boundary Integrity

- The enclosing tube that forms the pressure boundary seal of the E3 MODULEVEL is at least 0.035" thick, compared to the torque tube's 0.01" thickness.
- Torsion of the torque tube may result in fatigue failure of this pressure-retaining component, as well as opportunity for accelerated corrosion as a result of the shear stresses induced in the tube. The static-pressure-retaining enclosing tube on the E3 MODULEVEL is not susceptible to either of these failure effects.

Installation & Maintenance



Compact Design

- With a 3" (76mm) body and compact vertical design, the E3 weighs in 30% lighter than torque tubes, whose large tube arm results in an unwieldy instrument with a large footprint. Installation and maintenance are much easier with the E3 design.
- The E3 transmitter head is removable without depressurization of the process or chamber, making maintenance easy. Removal of the torque tube transmitter requires shutdown of the entire process and costly down time.

Removable, Rotatable Head

- The E3 MODULEVEL transmitter head is rotatable through 360°, making configuration of right-hand and left-hand mounting and orientation of the display and conduit a snap. By comparison, torque tubes must be factory configured to orient the display to the left or right of the chamber.

Remote Mount Capable

- The E3 MODULEVEL transmitter head can be mounted up to 400 feet (122m) from the instrument, while some torque tubes, with a special remote mounting kit, can be mounted only 30 feet (9m) from the sensor.

Applications

Media:	Liquids or slurries, clean or dirty, light hydrocarbons to heavy acids (SG=0.23 to 2.20)
Vessels:	Process and storage, bridles, bypass chambers, interface, sumps and pits up to unit pressure and temperature ratings.
Conditions:	Most liquid level measurement and control applications including those with varying dielectric, vapors, turbulence, foam, buildup, bubbling or boiling and high fill/empty rates. Also, liquid/liquid interface level measurement or density control.

Digital E3 MODULEVEL® Liquid Level Displacer Transmitter

Features

- SIL 2 suitable with the highest Safety Failure Fraction (SFF) of any displacer transmitter at 92.3%.
- No calibration required; **configuration only**.
- Available with 4 – 20 mA and HART® 6.x with PACT*ware*™ PC software and the Field Device Tool (FDT); AMS ready.
- FOUNDATION fieldbus™ option with PID block and Link Active Scheduler (LAS) capability.
- Comprehensive diagnostics with faults, warnings and status history.
- Range spring suppresses effects of turbulence to produce stable output signal.
- Suitable for process pressures up to 5150 psi (355 bar).
- For use in process temperatures up to +850 °F (+454 °C) in non-steam applications.
- Explosion-proof, intrinsically-safe and non-incendive approvals from FM, CSA, ATEX and IEC.
- Specific gravity adjustment without stopping process.
- Transmitter head rotatable through 360° and removable without interruption of process.
- Suitable for interface measurement and density detection.
- Electromagnetic compatibility per CE requirement EN 61326.
- Shock and vibration suitable per ANSI/ISA-S71.03 Class SA1 and VC2.

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