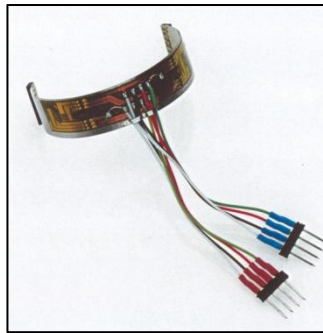




**TELEDYNE
TEST SERVICES**
A Teledyne Technologies Company

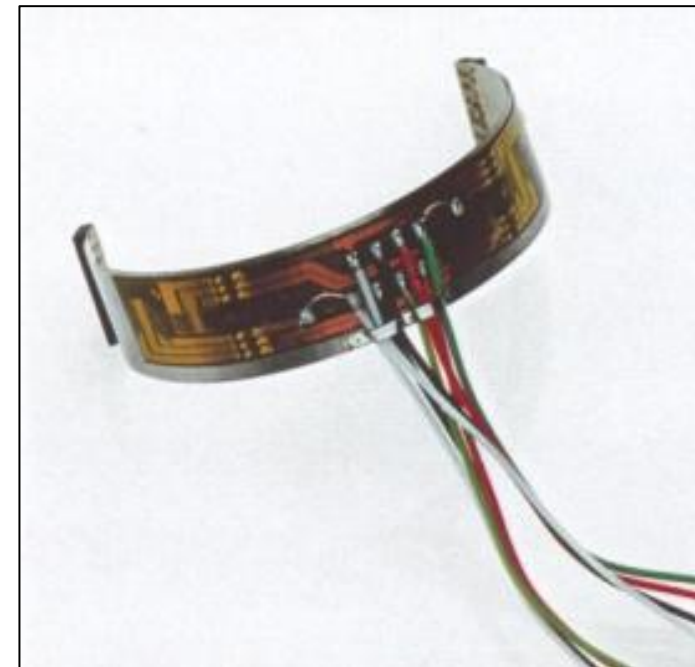
QUG 2012 - New and Updated Products





QSS Commercial Grade Dedication

- Responded to Industry Request
- CD Process Implemented January 2012
- All sizes converted March 2012
- Offering only CD – SR or Commercial PO's





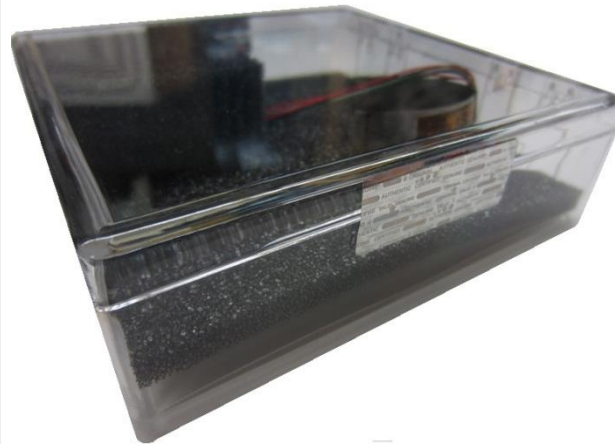
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QSS Commercial Grade Dedicator

- CD Suffix ... TES5497TT350 **CD**
- Yellow s/n Tag
- Tamperproof Seal
- New Label



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Test Services 100% R&D Quality Assurance Program. Installation instructions available
at <http://www.torque measurement.com/pdf/qssinstallation.pdf>

MADE IN USA



QUIKLOOK II / + Upgrade

- Preparation for QL3



- Upgrade Existing QUIKLOOK II / +
 - ✓ Obsolescence Issues Addressed
 - ✓ Hardware Upgraded

QUIKLOOK II / + Upgrade

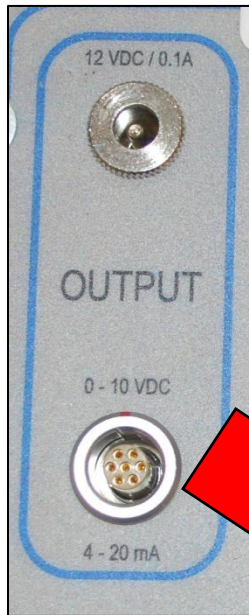
- Windows 7
- Solid State Hard drive
- More efficient Power Supply
- Improved Wireless Card
- Obsolescence Issues Addressed
- Minor Fixes Identified
- Tested to 125F+





QUIKLOOK II/+ E to i Board Upgrade

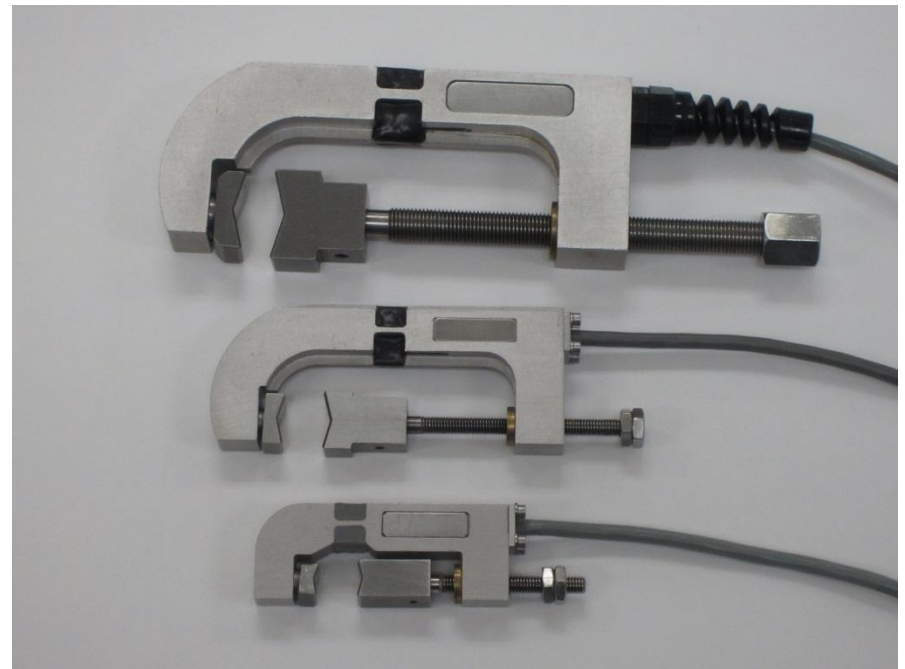
- Existing QL Analog Outputs
 - 4-20 mA , 10-50 mA
 - 0-10 VDC, 10 +/- 10 VDC





C-Clamp¹ Repair

- TTS Repair & Test
- 3rd Party Calibration



¹The C-Clamp is a product of Crane Nuclear Company



TST / DMT Interface - Update

- Connect TST or DMT to QUIKLOOK II/+
- Connect to any QUIKLOOK Channel
- 1% Uncertainty



¹The TST & DMT are products of Crane Nuclear Company

Motor Voltage Module - MVM

- 10 x Output of Previous Design
- Improved Internal Mounting
- Added Handle
- French Prototype on Test
- US Version Available 3Q12





SPMD Base Plate



- **Ferrous Base for SPMD Magnet**
- **Hole patterns for SMB 000 thru 2**
- **Thanks to Hendrick Facas!**



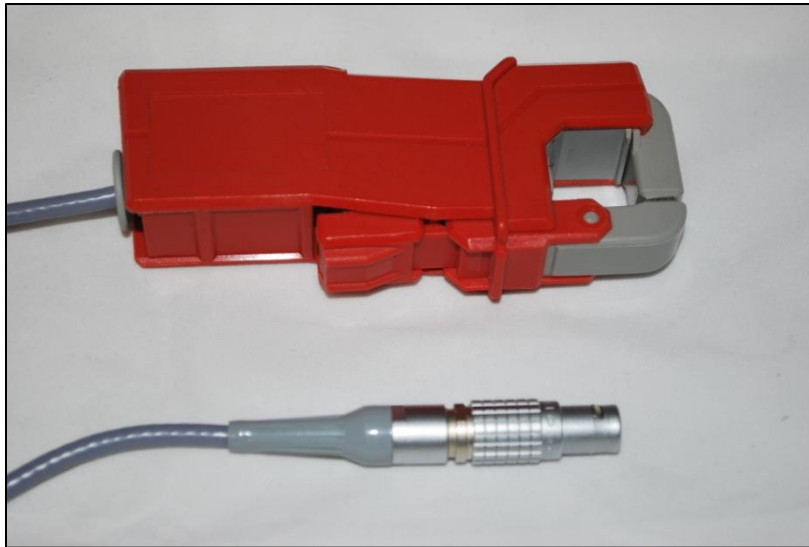
DC Voltage Differential Probe



- Used for DC Power Calc
- Up to 700 VDC
- 100:1 Divider
- 2 % Accuracy



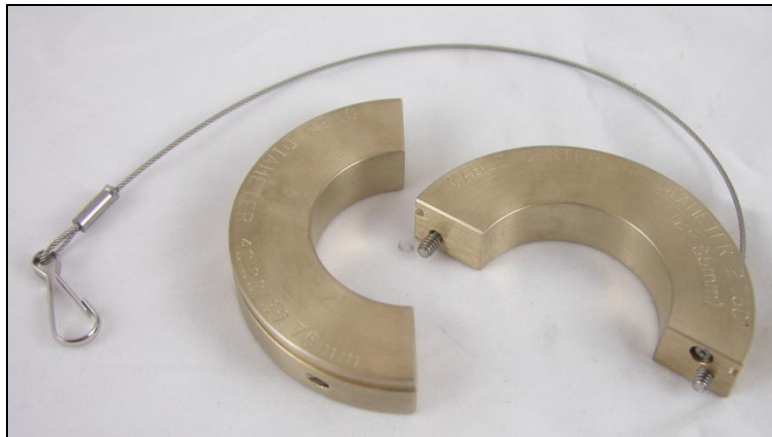
AC/DC Current Probe



- **Compact Design**
- **DC to 1000 Hz**
- **No Batteries**
- **Full Scale range 300 amps**
- **Integral 18 inch cable/connector**
- **+/- 2% Uncertainty**



Rotary Position Indicator Accessory (RPIA)



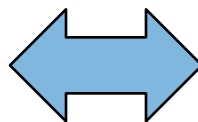
- **Wide Range of Stem Sizes**
- **Stock / Fast Turnaround**
- **0.75% FS Uncertainty**





Down the Road....

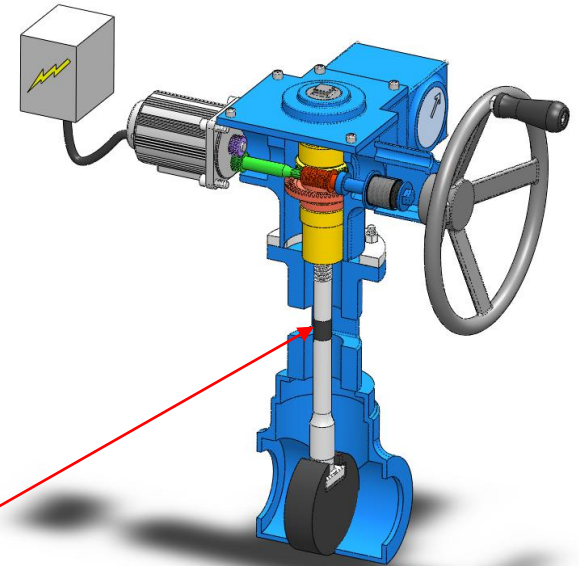
- **Automated QUIKLOOK Cal Software**
Available 2012





Direct Measurement Projects

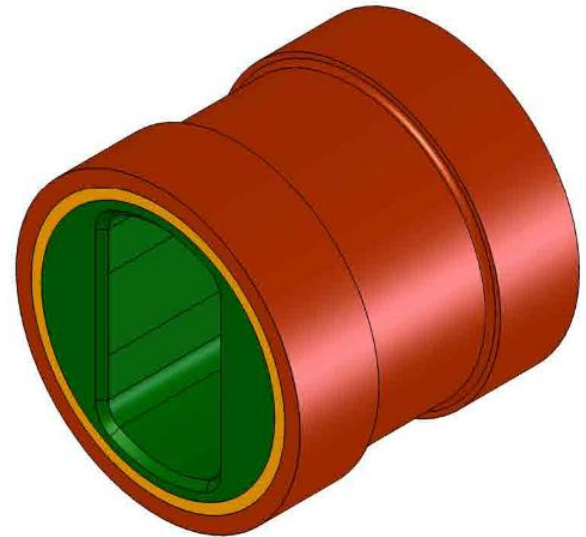
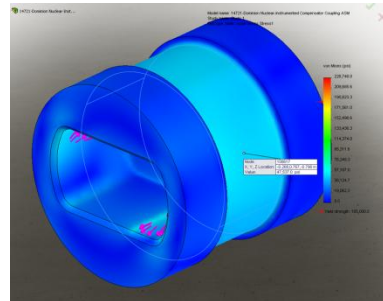
- Transducer Class, Strain Gage Based Measurement of Thrust or Torque at the Valve Stem





Direct Measurement

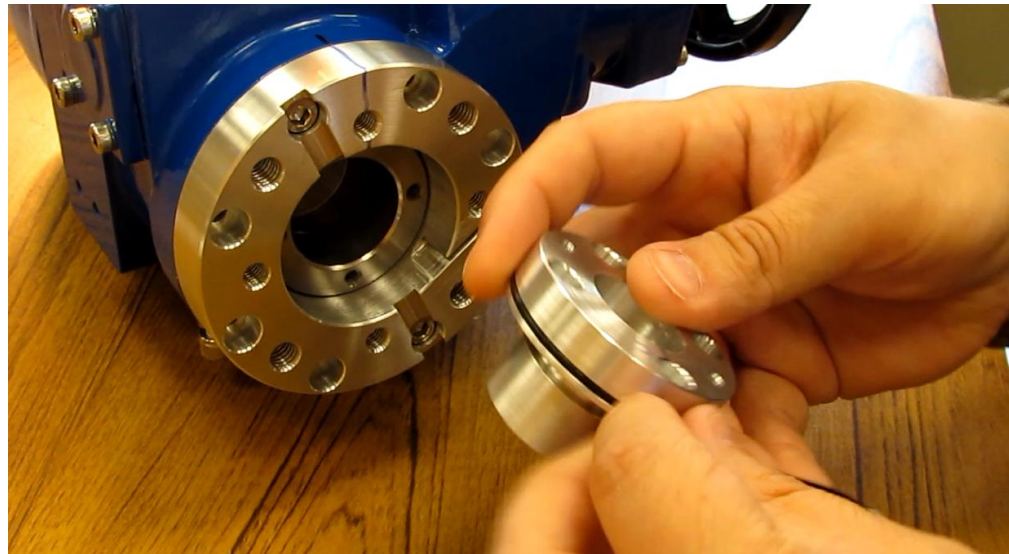
- **Dominion Millstone**
Instrumented Compensator
Saginaw Tufline Manual Service Water Valves





Direct Measurement

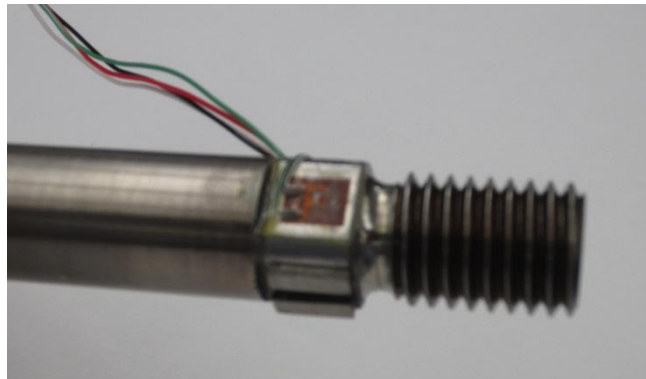
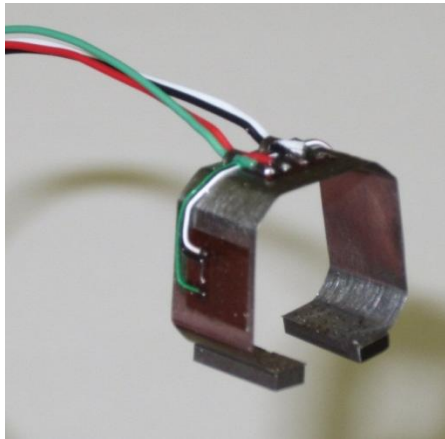
- Progress Energy – Crystal River
Instrumented Adapter
ABZ ¼ Turn Chiller Valve





Direct Measurement

- **Dominion Millstone**
Gimpel Trip-Throttle
pilot valve





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Thank You

Questions?