Driven by Automotive Manufacturers, Disc Brake System Suppliers and Brake Test Labs, Capacitec offers a next generation of rotor wear test electronics and sensors.

**The System Includes:**

- New Capteura® 220 and 520 series amplifiers with improved signal to noise ratio, bandwidth, amplifier drift and significantly better linearity
- The 520 model removes Apparent Dynamic Thickness Variation (ADTV)
- New 208 modular channel racks that are three times smaller than the previous generation
- HPC-150C-H (400°C) probe with replaceable cable and connectors
- HPC-150-V (870°C) probe with integral high temp cable

**Measurements**

- Rotor run-out (TIR)
- Static Rotor Thickness Variation (RTV)
- Apparent Dynamic Thickness Variation (ADTV)
- Rotor coning
- Plate-to-plate orientation (V-ing, barreling)
- Wobble
- Thermal expansion
Benefits

■ High temperature probe operation:
  H Series (400°C at sensor face)
  V Series (870°C probe and cable)

■ Small sensor diameter (OD 9.5mm) for large stand off (up to 2mm) or high sensitivity

■ Spatially small diameter sensors allow small rotor maximum coverage

■ Small sensor size fits between vented rotor holes for easier data acquisition (see image below)

■ New Capteura® 220 and 520 series amplifiers with low signal to noise ratio, higher bandwidth, improved amplifier drift and significantly better linearity

■ 520 model removes Apparent Dynamic Thickness Variation (ADTV)

■ Modular, multichannel 208 and 216 electronic rack modules

■ ESD: 20kV amplifier protection

■ Replaceable coaxial extension cables lowers sensor replacement cost (H model)

Dynamic On-Vehicle or In Lab Analysis Profiles

**FIG. 1:** The sum of the two opposite facing probe outputs [A-B] will be a constant value if there are no variations in the rotor thickness.

**FIG. 2:** If there is a variation in the rotor thickness there will be a corresponding change from the summed nominal value output from above

**FIG. 3:** For On-Vehicle applications Model 520 higher linearity and bandwidth takes out Apparent DTV from large caliper induced rotor movement toward one probe [B]
## Specifications

| **Probe Material Composition** | A, E and H: stainless 303; V: Inconel 600, other materials available |
| **Dimensions** | All dimensions are shown as typical only. Please contact the factory for exact dimensions |
| **Maximum Range** | Same as the diameter of the sensor element. [Minimum recommended range is 0.1% of full scale] |
| **Linear Range** | Two thirds (0.67) times the sensor diameter typical |
| **Probe Interchangeability** | ±10% of full scale with maximum cable lengths, ±2% typical |
| **Linearity** | Model 220-S: +/- 1% of full scale or better to 2/3 sensor diameter  
Model 220-SL: +/- 0.2% of full scale or better to 2/3 sensor diameter  
Model 520: +/- 0.05% of full scale or better to 2/3 sensor diameter |
| **Bandwidth** | Model 220: 200 Hz, 4 kHz, or 12 kHz frequencies (user specified)  
Model 520: 200 Hz, 4 kHz, or 16 kHz frequencies (user specified switch selectable) |
| **Low Noise** | Model 220: 0.1 nm measurement, HPC-150E-A-L2-1-B, 250 µm range, 200Hz  
Model 520: 1.28 nm measurement, HPC-150E-A-L2-1-B, 250 µm range, 200Hz |
| **High Resolution** | Many extension cables are available (eg: EC-CMX90-L2-10 typical for HPC-150E-H-FX series probe)  
Model 220: 10 foot (3.05m) cable length change affects the output by less than 0.1% FS  
Model 520: 10 foot (3.05m) cable length change affects the output by less than 0.2%, to 32.8' (10m) max |
| **Extension Cables** | Model 220: 0-10 VDC, +/- 10 VDC, or 0-5VDC (specify for calibration). Optional USB on rack  
Model 520: 0-10 VDC, +/- 10 VDC, or 0-5VDC (specify for calibration). Optional USB on rack |
**Application & Accessories**

**Laboratory Testing On Dynamameters**
- Capacitive probes mounted in a holder used to measure characteristics of a brake rotor while running on a dynamometer.
- Model 208 (8-channel rack) with (4) 520-XL amplifiers and (1) 200-C oscillator card.
- Capteura® 208-ACU, 90-240V 50/60HZ universal AC power, BNC and D-Sub output.

**On-Vehicle Testing**
- Capacitive probes mounted in a holder measuring disc brake wear and run out during on-vehicle testing.
- Optional Capteura® Model 200-ENC dual channel enclosure, 5-12V DC power, output cable provided.
- Capteura® 208-DCU, 9-36V DC power, BNC and D-Sub output.

**Accessories**
- Capacitive probes shown with new integral connectors and mounted on disc brake.
- DAQ A/D converter (8-channel 14 Bit) and USB Driver for 200 Series.
- Calibration stands and micrometers.

---

**US HEADQUARTERS**
Capacitec, Inc.
87 Fitchburg Road
P.O. Box 819
Ayer, Massachusetts 01432
USA
TEL: 978-772-6033
FAX: 978-772-6036
email: sales@capacitec.com
www.capacitec.com

**EUROPEAN HEADQUARTERS**
Capacitec Europe
16, rue Séjourné
94044 CRETEIL cedex
FRANCE
TEL: 33 1 43 39 48 68
FAX: 33 1 49 80 07 49
email: eurosales@capacitec.com
http://fr.capacitec.com

© 2014 Capacitec, Inc. All rights reserved. DiscBrakeREVA www.capacitec.com