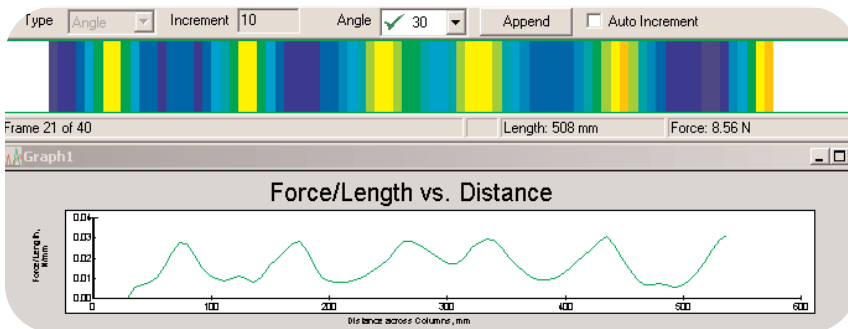




The *Wiper* system measures force distribution between blade and glass. A uniform force profile leads to excellent visibility through the windshield. An uneven profile, such as high force under one or two claws can lead to scratches. If there are low force regions, such as a claw misalignment, or a blade bowing between claws, poor wiping and streaks are likely. Many windshields have compound curves, presenting a challenge to the arm mechanism. The blade could mate well with the glass positions, but not at others. Sequential static measurements taken at representative blade angles simulate upstroke and down-stroke movement and determine how well the arm assembly follows the contour of the windshield. Some users operate the system on highways and wind tunnels to find if wind impingement results in blade lift-off or higher contact force.

### Software Display:

Force output measured - wiper blade at a 30° angle on windshield



Output displayed graphically - Force vs. Distance along blade

The *Wiper* system uses a long, very thin sensor secured to the glass. Active sensor elements (sensors) spaced every 1/4" (6.3mm) register the force along the length of the blade. Active electronics in a small handle, sends the sensor information to your computer through a USB port. Force is shown as vivid colors in 2-D and 3-D images of the sensor. Digital photographs can be stored with each measurement to document test conditions. A series of individual measurements can be merged into a single view to illustrate passage of the blade over the entire windshield. Data can be shown in graphs, and exported in ASCII format.

### Application:

- Force profile along blade length
- Sequential static measurements in different positions merge to show entire sweep on windshield

### Key Features:

- Captures force at many locations along blade
- Real time sensor image for instantaneous feedback
- Graphing and analysis for product comparisons
- Flexible, thin-film sensors conform to curved glass
- Sensors are durable and reusable
- Simple USB connection
- Portable for field use
- Sensitive
- Equilibration fixture enhances sensor uniformity
- Calibration with application of a known force
- Sampling rate 10Hz

### Benefits:

- Competitive bench-marking tool
- Reduces the need to build costly fixtures
- Design verification

### Found in:

Research & Development, Design, and Test Facilities

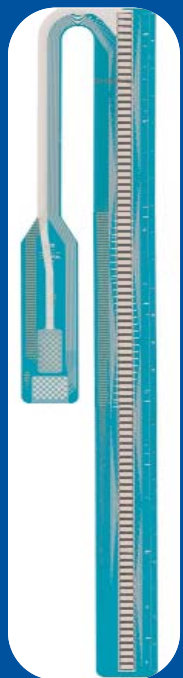
### Industries:

Wiper and Automotive Manufacturers

# Specifications and Features

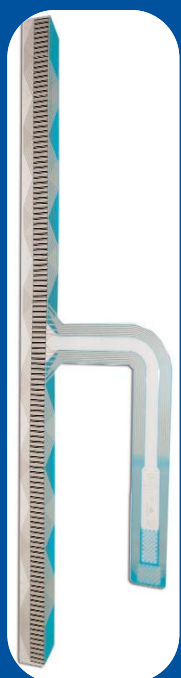
## Software Features:

- Merge multiple static measurements
- Display real-time and recorded data as 2-D and 3-D images
- Play-back force “movies”
- View data frame-by-frame
- Link digital images to force data
- Export data in ASCII format
- Display data frame-by-frame, single, and/or multi-frame
- View and compare multiple tests simultaneously
- And much, much more!



Sensor #9901

96 Sensing  
Elements  
24 in x .38 in  
(609.6 x 9.65 mm)



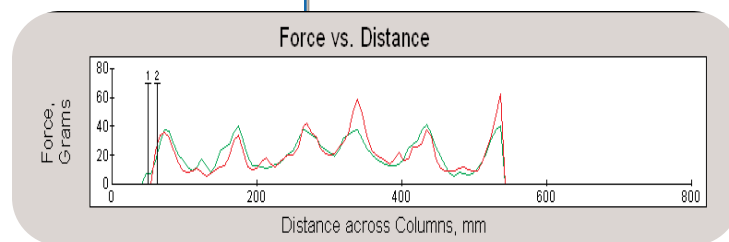
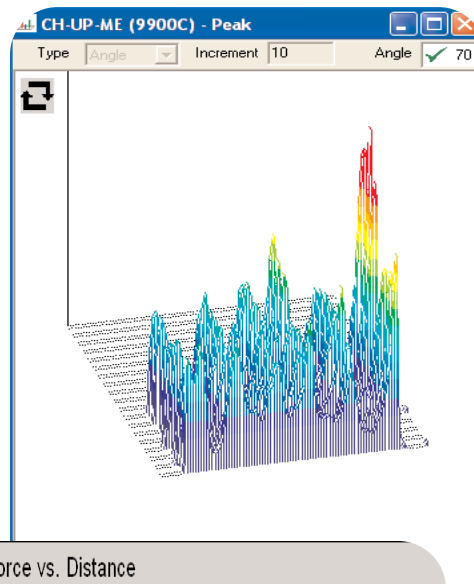
Sensor #9920

128 Sensing  
Elements  
32 in x 0.77 in  
(812.8 x 19.49 mm)

## Software Display:

3-D view of wiper blade sweep  
test - wiper  
measurements taken at  
multiple angles

Comparison of blade force at  
two different angles



## Sensor Description:

### Model #9901, Model #9920

#### Spatial Resolution

4.0 sensels/linear in (1.57 sensels/linear cm)

#### Technology

Resistive

#### Calibration

With application of a controlled device, Included with system purchase

#### Sampling Rate

10 Hz

#### Pressure Range

0-10 PSI

#### Sensor Thickness

0.004 in (0.1 mm)

## Add-On Option:

**Wireless Capability** - Enables a wireless connection between your sensor/handle and your PC allowing for ultimate flexibility in data acquisition.

**Call Today for a Demonstration!**

Tekscan, Inc.  
307 West First Street  
South Boston, MA 02127-1309 USA  
tel: 617.464.4500/800.248.3669  
fax: 617.464.4266  
e-mail: [marketing@tekscan.com](mailto:marketing@tekscan.com)  
website: [www.tekscan.com](http://www.tekscan.com)

RevE\_121506

