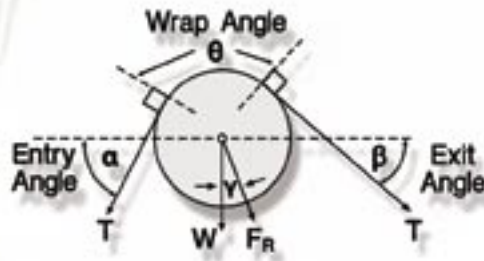




VISHAY INTERTECHNOLOGY, INC.

HTU WEB TENSION MEASUREMENT SYSTEMS

Vishay BLH

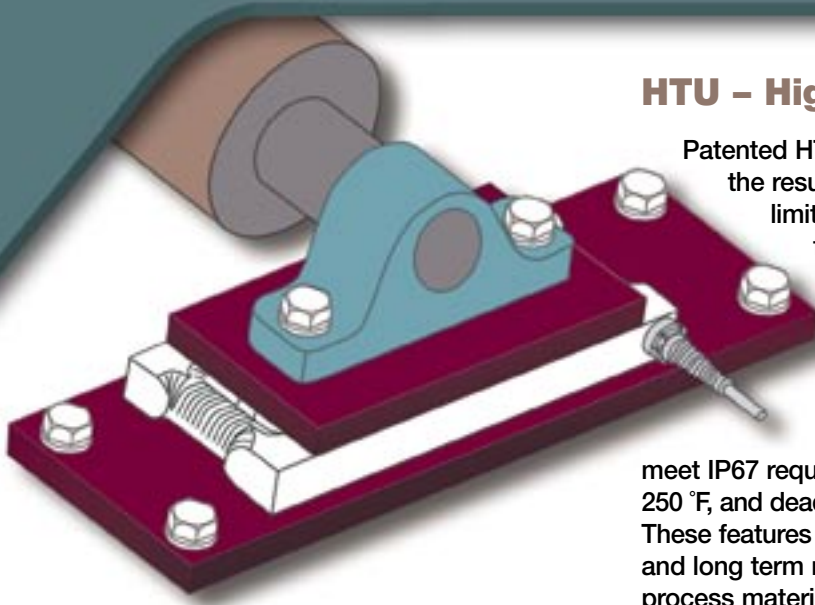


- Industry first, patented technology
- Measure both X and Y axis tension signal components, simultaneously
- Calculate precise resultant force F_R
- Display left, right, differential, and total tension
- Extremely low profile for simple system retrofit
- Temperature compensated to 250 °F
- Rugged, high strength, stainless steel construction

www.vishaymg.com

MARKET SOLUTIONS

Web Tension System Solutions



HTU – High Tension Measurement

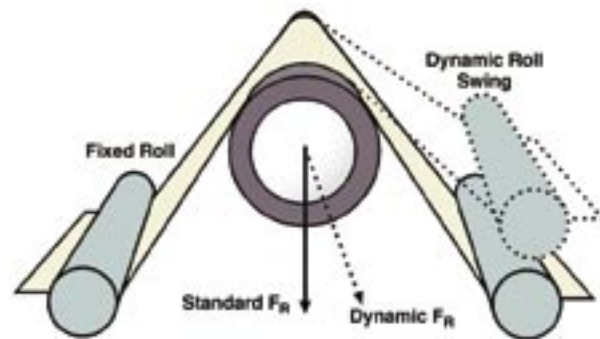
Patented HTU universal web tension load cells measure the resultant force in any direction and are not limited to horizontal or vertical component force. In addition, they do not require unique orientation to achieve maximum sensitivity. This permits the installation of identical load cells at multiple Web Tension zones regardless of the pillow block mounting or angle configuration of the roller. The low-profile cell is sealed to meet IP67 requirements, temperature compensated to 250 °F, and dead weight calibrated to precision accuracy. These features add up to zero maintenance, simple retrofit, and long term reliability for machines that continuously process material in the paper, steel, rubber, and mining industries. Applications include:

- Calenders
- Breakers
- Felts
- Strip Steel Tension
- Winders
- Rewinders
- Wire Sections
- Coaters
- Laminators
- Dryers
- Mining Conveyors



Patented HTU Web Tension Transducer
(shown without mounting plates)
Capacities Range from 2K to 20K Pounds

After calculating total resultant web tension force based upon both HTU outputs, the DXt-40 provides four high-resolution, 16-bit analog signals for driving system motors and clutches. Analog output signals can be configured for left, right, differential, and total tension.



100% Digital System Calibration

Factory-calibrated HTU Transducers reduce installation time by eliminating the need for expensive on-site dead weight calibration or “strapping” procedures. Individual calibration sheets, shipped with each transducer, provide precise zero and span reference data for direct entry into the DXt-40 transmitter. Total, individual, and differential force outputs are viewed through an internal VFD display. Key-pad calibration, along with matched output signals from the HTU Transducer, offer maintenance-free operation, on-line diagnostics, and long term reliability.



DXt-40 Web Tension Controller
Stainless Steel Option
(shown with view window)

Dynamic Resultant Force Measurement



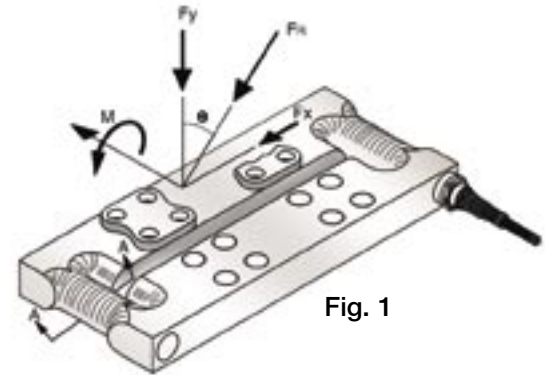
Principles of HTU Operation

Force-sensing elements located on each end of the transducer measure the components F_x and F_y of F_R applied along the X and Y axes (Fig. 1). Resultant output signals (F_R) can be used to determine the magnitude and direction (θ) of the overall force applied by the web. Two full Wheatstone bridges are mounted internally to each tubular cross section to provide independent sensing for each axis, as well as protection from hostile environments.

Additional Benefits and Services

With an ultra-low height of only 1.45 inches, HTU installation is negligible to the overall system in-line profile. In addition to having a low profile, units function flawlessly at temperatures from 0 °F to 250 °F. Cylindrical sensing sections are metal to metal sealed and meet or exceed all IEC IP67 requirements.

Vishay BLH Field Service Engineers, available upon demand, perform on-site start-up, calibration, and emergency repairs. Factory trained, they are specialists in maximizing the performance and reliability of every web tension measurement system.



Additional Web Tension System Equipment



Web Tension Transmitters



GLT
Transducers

Vishay BLH produces precision Web Tension Transducers (full Wheatstone bridge) and 'Expert' Series Instrumentation for every measurement need.

- Paper and Roofing Machines
- Film, Foil, Tissue Converting
- Conveying Systems

Precision Process Weighing Systems



KIS Weigh Modules



LCp Series Instruments

Vishay BLH specializes in the production of precision weighing systems for dynamic batch, blend, and mix applications.

- High Value Ingredient Processing
- Safe-Weigh® System Diagnostics
- Plug-n-Weigh® Installation Ease
- Reactor Vessel Measurement/Control

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VISHAY MEASUREMENTS GROUP

Vishay Transducers: Vishay Nobel, BLH, Celtron, Sensortronics®, TedeA-Huntleigh

Vishay Micro-Measurements: Vishay Micro-Measurements, BLH SR-4®

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VISHAY IS ONE OF THE WORLD'S LEADING MANUFACTURERS OF DISCRETE SEMICONDUCTORS AND PASSIVE COMPONENTS