

BP400600HF

High Frequency Force Platform



APPLICATIONS

The BP400600HF* model Biomechanics Force Platform is ideal for applications which require high frequency response or a light-weight sensor. The BP400600HF can be used for biomechanics, engineering, medical research, orthopedics, rehabilitation evaluation, prosthetics, and general industrial uses. Specific uses include gait analysis, stability analysis, neurological analysis, prosthetics fitting, athletic performance, shoe design, and force, power, and work studies.

DESCRIPTION

The AMTI Biomechanics Force Platform model BP400600HF is a higher resonant frequency version of AMTI's BP400600 force platform. This platform features a composite top plate resulting in a low-mass instrument with excellent frequency response. The low mass feature reduces the effect of floor vibrations on force plate outputs by a factor of four compared to the standard BP400600.

Specifically designed for the precise measurement of ground reaction forces, the BP400600HF measures the three orthogonal force and moment components along the X, Y, and Z axes, producing a total of six outputs. The high sensitivity, low crosstalk, excellent repeatability and long term stability of this platform makes it ideal for research and clinical studies. The BP400600HF is easy to use and is available in either 1000 or 2000 pound (4450 or 8900 Newton) vertical capacities.

AMPLIFICATION

The BP400600HF Biomechanics Force Platform incorporates strain gages mounted on four precision strain elements in a patented design to measure forces and moments. As with most conventional strain gage transducers, bridge excitation and signal amplification are required. The BP400600HF can be used with any strain gage amplifier, and AMTI's product line includes various strain gage amplifiers to suit different application needs. AMTI's amplifiers are all high gain devices which provide excitation and amplification for multiple channels in one convenient package.

CALIBRATION

Each platform is tested and calibrated in AMTI's facility. The calibration procedure provides a detailed sensitivity matrix and a complete test of all system components.

SOFTWARE

Automated data collection and reduction requires a computer and software. AMTI's software package, BioAnalysis with NetForce, is specifically designed for biomechanics and clinical applications. It features three modules for quick and easy hardware setup, automated data acquisition, and analysis. This software allows the user to quickly begin testing rather than undertake the tedious and lengthy process of writing data acquisition and reduction routines. The BioAnalysis with NetForce software package is available separately or combined in one of AMTI's BIOVEC™ Systems.

BIOVEC™ SYSTEMS

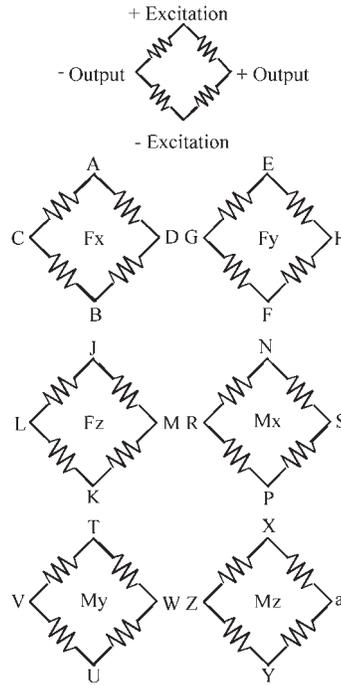
AMTI's BIOVEC™ Systems are complete gait and balance analysis force platform systems. Each system consists of force platforms (from 1 to 4), amplifiers, cables, mounting hardware, A/D converter, and BioAnalysis software, all sold at a special system price.

CUSTOM

AMTI also offers other transducers to meet your specific needs. Units with larger surface areas are available, and sensors with capacities as high as 3,000,000 pounds (13,345,000 Newtons) have also been constructed. Units are available in waterproof versions and various sizes, load capacities, sensitivities, and materials.

| BP400600HF SERIES SPECIFICATIONS | 1000 | 2000 |
|--|------------------|------------------|
| Fx, Fy Capacity, lb, (N) | 500 (2225) | 1000 (4450) |
| Fz Capacity, lb, (N) | 1000 (4450) | 2000 (8900) |
| Mx Capacity, in*lb, (Nm) | 11800 (1300) | 23600 (2700) |
| My Capacity, in*lb, (Nm) | 7900 (900) | 15700 (1800) |
| Mz Capacity, in*lb, (Nm) | 5900 (700) | 11800 (1300) |
| Fx, Fy Natural Frequency, Hz | 470 | 600 |
| Fz Natural Frequency, Hz | 780 | 830 |
| Fx, Fy Sensitivity, $\mu V/[V*lb]$, ($\mu V/[V*N]$) | 3.0 (0.67) | 1.5 (0.34) |
| Fz Sensitivity, $\mu V/[V*lb]$, ($\mu V/[V*N]$) | 0.75 (0.17) | 0.38 (0.08) |
| Mx Sensitivity, $\mu V/[V*in*lb]$, ($\mu V/[V*Nm]$) | 0.158 (1.394) | 0.079 (0.697) |
| My Sensitivity, $\mu V/[V*in*lb]$, ($\mu V/[V*Nm]$) | 0.201 (1.776) | 0.100 (0.888) |
| Mz Sensitivity, $\mu V/[V*in*lb]$, ($\mu V/[V*Nm]$) | 0.369 (3.268) | 0.185 (1.634) |
| Height, in, (mm) | 3.25 (82.5) | 3.25 (82.5) |
| Weight, lb, (Kg) | 40 (18.2) | 40 (18.2) |
| Top Plate Material | composite | composite |

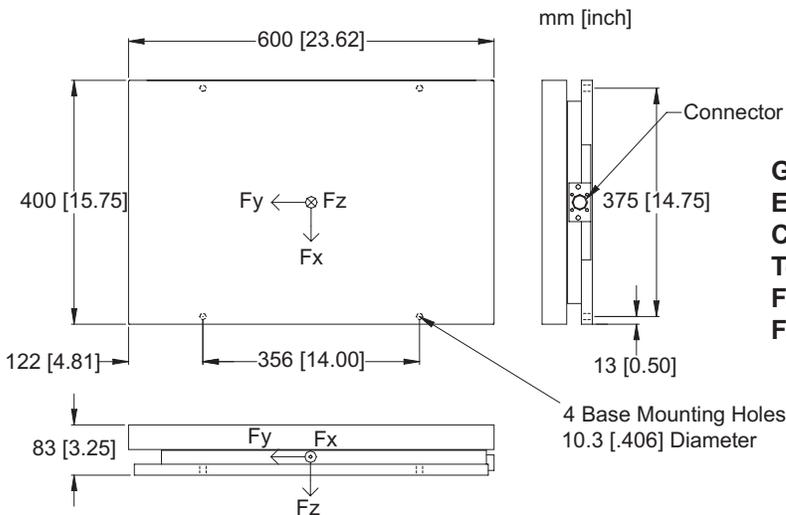
WIRING FOR BP400600HF



Bridge Fz = 700 ohms
Bridges Fx; Fy; Mx; My; Mz = 350 ohms

CONNECTOR TYPE:

Souriau 851-02E16-26P50-44



GENERAL SPECIFICATIONS

Excitation: 10V maximum

Crosstalk: Less than 2% on all channels

Temperature Range: 0 to 125°F (-17 to 52°C)

Fx, Fy, Fz hysteresis: $\pm 0.2\%$ Full Scale Output

Fx, Fy, Fz non-linearity: $\pm 0.2\%$ Full Scale Output

ISO 9001 CERTIFIED



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