

OR6-6

High Frequency Force Platform



APPLICATIONS

The OR6-6* model biomechanics force platform is ideal for applications which require high frequency response or a light-weight sensor. The OR6-6 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 OR6-6 offers the highest resonant frequency of AMTI's line of force platforms. This platform features composite construction, resulting in a low-mass instrument with excellent frequency response.

Specifically designed for the precise measurement of ground reaction forces, the OR6-6 measures the three orthogonal force components along the X, Y, and Z axes, and the moments about the three 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 OR6-6 is easy to use and is available in either 1000, 2000, or 4000 pound (4450, 8900, or 17,800 Newton) vertical capacities.

AMPLIFICATION

The OR6-6 biomechanics force platform uses 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. AMTI's amplifiers are high gain devices which provide excitation and amplification for multiple channels in one convenient package.

CALIBRATION

Each platform is inspected and tested in AMTI's calibration facility. The calibration procedure provides a detailed sensitivity matrix and a complete test of all system components, including the amplifier and the connecting cable.

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. NetForce provides a simple user interface and extensive database function for easy trial set-up and data acquisition. BioAnalysis performs a comprehensive analysis of the data and presents many summarizing parameters that can be averaged across numerous selectable trials. The BioAnalysis with NetForce software package is available separately or combined in one of AMTI's BIOVEC™ Systems.

BIOVEC™ SYSTEMS

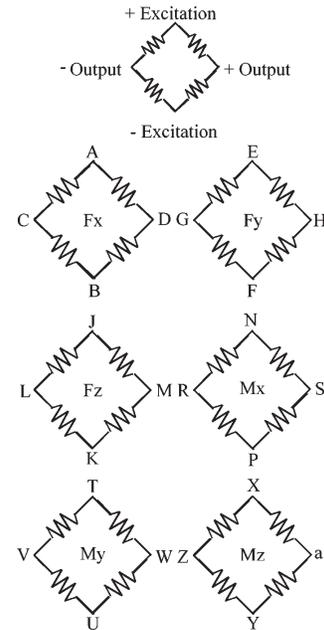
AMTI's BIOVEC™ Systems are complete gait and balance analysis force platform systems. Each system consists of force platforms (from 1 to 4), amplifiers, cables, mounting hardware, A/D converter, and BioAnalysis software.

CUSTOM

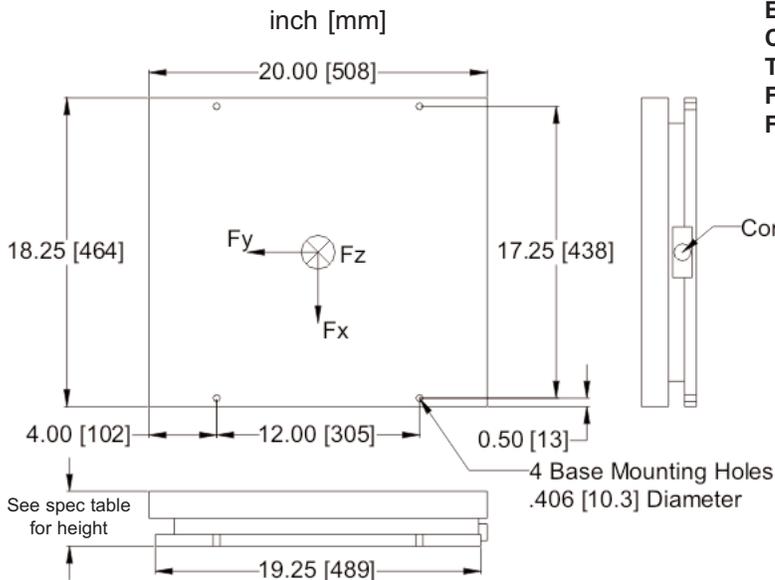
AMTI also offers special multi-axis transducers to meet your specific needs. Units are available that are waterproof, pressure compensated, non-magnetic, non-conductive, and transparent. A wide range of materials of construction have been used. Sizes from less than 0.75 inches (19 mm) in diameter to 48 inches (1219 mm) square have been built. Capacities from 1 pound (4.5 N) to 3 million lbs (13.3 MN) have been made. Contact AMTI for any custom requirements.

OR6-6 Series Specifications	1000	2000	4000
Fz Capacity, lb (N)	1000 (4450)	2000 (8900)	4000 (17800)
Fx, Fy Capacity, lb (N)	500 (2225)	1000 (4450)	2000 (8900)
Mz Capacity, in*lb (Nm)	5000 (600)	10,000 (1100)	20,000 (2300)
Mx, My Capacity, in*lb (Nm)	10,000 (1100)	20,000 (2300)	40,000 (4500)
Fz Natural Frequency, Hz	1000	1000	1000
Fx, Fy Natural Frequency, Hz	400	550	800
Fz Sensitivity, $\mu\text{V}/[\text{V}*\text{lb}]$ ($\mu\text{V}/[\text{V}*\text{N}]$)	0.75 (0.17)	0.38 (0.08)	0.19 (0.04)
Fx, Fy Sensitivity $\mu\text{V}/[\text{V}*\text{lb}]$ ($\mu\text{V}/[\text{V}*\text{N}]$)	3.0 (0.67)	1.5 (0.34)	0.75 (0.17)
Mz Sensitivity, $\mu\text{V}/[\text{V}*\text{in}*\text{lb}]$ ($\mu\text{V}/[\text{V}*\text{N}*\text{m}]$)	0.38 (3.38)	0.19 (1.69)	0.09 (0.85)
Mx, My Sensitivity, $\mu\text{V}/[\text{V}*\text{in}*\text{lb}]$ ($\mu\text{V}/[\text{V}*\text{N}*\text{m}]$)	0.18 (1.59)	0.09 (0.79)	0.05 (0.39)
Height, in (mm)	3.25 (82.5)	3.25 (82.5)	4.0 (102)
Weight, lb (kg)	40 (18)		
Top Plate Material	composite		

WIRING FOR OR6-6



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



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

CONNECTOR TYPE:

Souriau 851-02E16-26P50-44

ISO 9001:2000 CERTIFIED



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