

## **STATEMENT OF WORK**

### **1. SCOPE OF PRODUCT REQUIRED**

The contractor shall provide gait and physical performance measuring equipment for the Department of Veterans Affairs Medical Centers in Minneapolis.

### **2. DESCRIPTION OF PRODUCT**

Contractor shall furnish the following performance measurement equipment to the Minneapolis VA Point of Contact (POC):

- \* Single force platform system consisting of 9 meter force platform to amplifier cable, Optima amplifier, force platform mounting hardware and resin kit or equal.
- \* Cable, 30 feet (9m) long, force sensor to USB amplifier. High Density D-type connector on both ends. AMTI Logo molded into cable connector. MFG #SP68324 HD26M/F #26 SH TP MLD LOGO 30' or equal.
- \* Modular Rail System, BP400600, BP400600HF, BP40060WP, OPT400600 or OPT400600HF Force Platform or equal.
- \* Signal conditioner with analog and USB outputs for OPTIMA and Optimized Platforms or equal.
- \* OPTIMA Human performance system multi-axis force platform (400x600x82.5mm). 2K lb. capacity with thru top mounting access holes (solid top) and holes for FP1 (Front location, FPSTAIRS) or equal.
- \* Single force platform system consisting of: OPT400600-2K-STT-FP2, 9 meter force platform to amplifier cable. Optima amplifier, force platform mounting hardware and resin kit or equal.
- \* Cable, 30 feet (9m) long, force sensor to USB amplifier. High Density D-type connector on both ends. AMTI Logo molded into cable connector. MFG. #SP68324 HD26M/F #26 SH TP MLD LOGO 30' or equal.
- \* Modular Rail System, BP400600, BP40060HF, BP400600WP, CPT400600, or OPT400600HR Force Platform or equal.
- \* Signal conditioner with analog and USB outputs for OPTIMA and Optimized Platforms or equal.
- \* OPTIMA Human performance system multi-axis force platform (400x600x82.5mm), 2K lb capacity with the top mounting access holes

(solid top) and holes for FP2 (Back location, FPSTAIRS) or equal.

- \* Single force platform system consisting of: OPT400600HF-2K-CTT, 9 meter force platform to amplifier cable, Optima amplifier, force platform mounting hardware and resin kit or equal.
- \* Cable, 30 feet (9m) long, force sensor to USB amplifier. High Density D-type connector on both ends. AMTI Logo molded into cable connector. MFB. #SP68324, HD26M/F #26 SH TP MLD LOGO 30' or equal.
- \* Modular Rail System, BP400600, BP400600HF, BP400600WP, OPT400600, or OPT400600HF Force Platform or equal.
- \* Signal conditioner with analog and USB outputs for OPTIMA and Optimized Platforms or equal.
- \* OPTIMA Human performance system multi-axis force platform (400.600x82.5mm), 2k lb capacity with thru top mounting access holes. See [www.amti.biz/opt400600hf.aspx](http://www.amti.biz/opt400600hf.aspx) for details or equal.
- \* Interlaced force platform stairs for OR67-2000 \*\*\*REV. A\*\*\*, BP400600-2000 \*\*\*REV.B\*\*\* or equal.

The sensory equipment must have the following salient characteristics:

- Must have measurements up to 100 times more accurate than any other force platform, over the entire working surface.
- Must provide levels of accuracy with best-in-industry calibration capabilities.
- Must comply with ASTM International Standard Test Method for Verification of Multi-Axis Force Measuring Platforms.
- Must consist of a force plate, signal conditioner, calibration certificate and cabling.
- Must measure 4000 measurements along a high-density grid covering the platform's entire surface.
- Must accommodate multiple loads at up to 400 locations using a precision machine capable of maintaining accuracy of 0.005 mm (certified by The Association for Manufacturing Technology).
- Must afford live loads from 50 pounds to full scale capacity applied across the top and sides of the force plate. Next, "NIST traceable" dead weights of 50, 100, and 200 pounds (accurate to 0.01%) are used to verify the system's performance in the physiological testing ranges.
- HPS SPECIFICATIONS: COP ERROR TYP\* <0.2 mm CROSSTALK, % APP LOAD, TYP  $\pm 0.05\%$  MEASUREMENT ACCURACY, % APPL LOAD TYP\*  $\pm 0.10\%$   
\*minimum applied load: 50 lbs.
- OPT464508 Dimensions or equal: 464 mm x 508 mm Capacities Available 4448, 8896 N
- High Frequency Design: OPT464508HF 464 mm x 508 mm 4448, 8896 N  
OPT400600 400 mm x 600 mm 4448, 8896 N OPT400600HF 400 mm x 600 mm 4448,

8896 N or equal.

- The signal conditioner (OPT-SC) or equal will provide seamless integration between the force place and data collection system.
- The amplifier will communicate directly with the platform to ensure the correct calibration file is loaded, reducing human error.
- The amplifier will offer fully software configurability with four gain and three excitation options for each channel.
- The amplifier will automatically correct for voltage drop along the cable and uses calibrated gain and excitation voltage values.
- Mounting rail system through-top mounted force plates and extensible mounting rail system
- Filler plates
- The amplifier will possess bridge excitation and channel independency with software configurable to 2.5, 5 or 10 VDC.
- Amplifier must have auto zero push button or software initiated and have anti-aliasing filter 1000 Hz low pass and 2-pole Butterworth
- Amplifier will have Analog output range +/- 5 volts and Analog output reconstruction filter 1000 Hz low pass, 3-pole Butterworth, Analog output DAC 16 bit with Sample rate Max: 1200 Hz/channel Min: 10 Hz/channel, Synchronization Genlock, external trigger, internal clock.
- Digital Signal Processor 16 bit, Digital data IEEE 754 floating point, 32 bit Data Integration USB Digital or analog output smart platform technology.
- Force Platform must have six four-arm strain gage bridge inputs with COP ERROR TYPICAL\* <0.2% mm <0.4 mm CROSSTALK, % APP LOAD, TYP ±0.05% ±0.20% MEASUREMENT ACCURACY, % APPL LOAD\* TYPICAL ±0.10% ±0.25%
- System must feature State-of-the-art signal conditioning with 1 kHz anti-aliasing filters, oversampling, and digital signal processing, fully calibrated and NIST-traceable with tested to medical-grade standards for safety, essential performance, and electro-magnetic compatibility. Intuitive and easy to use fully software configurable with automatic balancing of strain gage bridges initiated by front-panel button or through software.