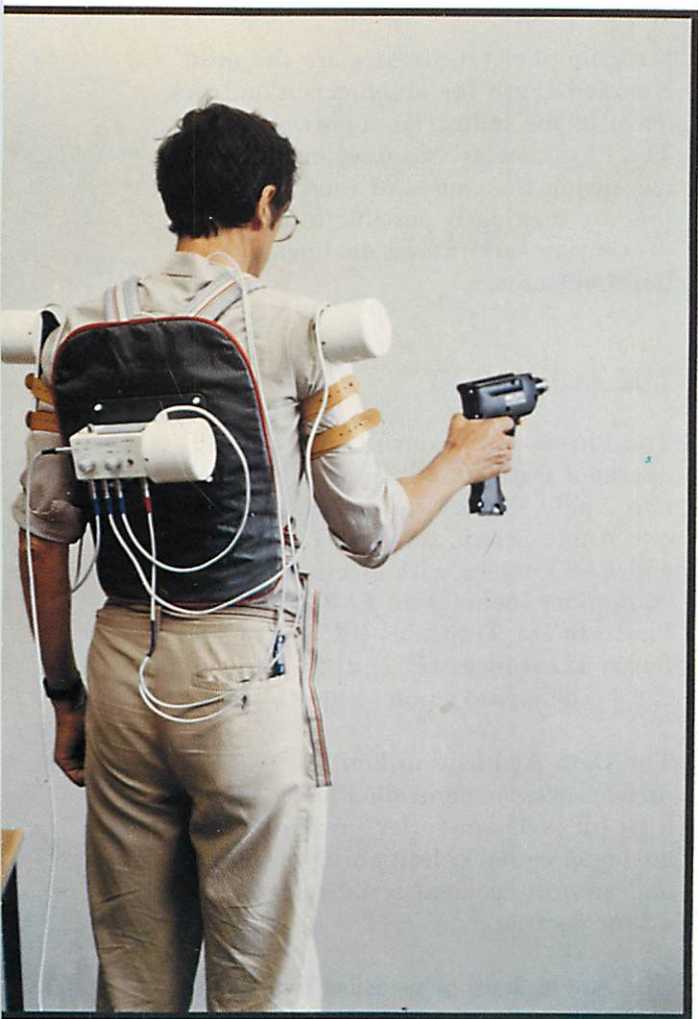


PHYSIOMETER



Premed as

PHYSIOMETER DESCRIPTION

INTRODUCTION

Musculo-skeletal diseases are the most common cause for absenteeism and sick leave in the industrial countries.

The Physiometer was developed for measuring the causes of these problems, thereby making it possible to take preventive actions and document improvements.

THE EQUIPMENT

The Physiometer consists of a battery operated Data Acquisition Unit (DAU-200), two Angle Sensors for Arm (ASA-100), one Angle Sensor for Back (ASB-101) and EMG cables with electrodes. Optional equipment includes an EMG Calibration Platform for Trapezius (ECT-104) and a Force Transducer (FTR-105). Other sensors can be delivered upon request.

The Data Acquisition Unit is microprocessor controlled and contains a 10 bit A/D converter, multiplexer, analogue signal conditioning circuitry, and an opto isolated serial interface to a host computer.

The Angle Sensors measure two angles at 90° to each other, relative to vertical.

MEASUREMENT PROCEDURE

The signals are first calibrated, converting the input from the sensors to the correct output scale. A special calibration procedure is available for EMG measurements, fitting the relationship between force and EMG into a mathematical function.

During the measurement period data from all sensors are transmitted to the PC and stored. Any one channel can be selected for a real time display on the PC. Different plot rates can be selected, giving a view from 10 min. to 10 h on a full screen.

When the recording session is finished, the distributive and cumulative amplitudes are calculated and drawn on the display. In addition the number of crossings at each amplitude level is obtained, in order to get an indication of the variation in the work pattern. The total measurement period can be subdivided into smaller sections for separate analysis.

All data can be presented on a graphic printer. A complete measurement report with a selection of graphs from different recordings can also be printed out.

PHYSIOMETER PHY-400

A complete system for physiological measurements, with direct connection to a computer for data presentation and signal analysis.

Main Features:

- * Measurement of EMG, postural angles and force gives a good picture of the total physical work load.
- * Extensive EMG calibration procedure facilitates a direct comparison of different measurements.
- * Direct connection to a computer for signal analysis.
- * Comprehensive software for real time graphic presentation and data storage.
- * Calculation of cumulative and distributive statistics.
- * Complete measurement report with graphic presentation of selected recordings.
- * Stored data can be retrieved at any time for further analysis.
- * A wide range of sensors can be interfaced to the Physiometer.

Please contact **Premed** as for further information.

TECHNICAL SPECIFICATION

DATA ACQUISITION UNIT

EMG inputs: 4 differential channels with:

- * Gain : 170, 800, 3600
- Impedance : >5 MOhm
- Noise : <5 uV
- CMRR : 50 dB
- * Rate : 400 samples/s
- * Processing : True RMS

Angle inputs: 6 ratiometric channels with:

- Excitation : 4.5 VDC at max 5 mA
- * Rate : 10 samples/s
- One channel can be used for force measurements.

Memory : 32 kB RAM, 32 kB EPROM

A/D conv. : 10 bit

Interface : Opto isolated, current-loop,
with RS-232C adapter at
9600 baud

Power : 9 VDC, battery 6LF22,
12 mA operating

Size : 120 mm x 80 mm x 80 mm

Weight : 400 g

* For other requirements, please
consult factory.

ANGLE SENSOR

Linearity : 0.5 %

Size : 210 mm x 80 mm x 80 mm

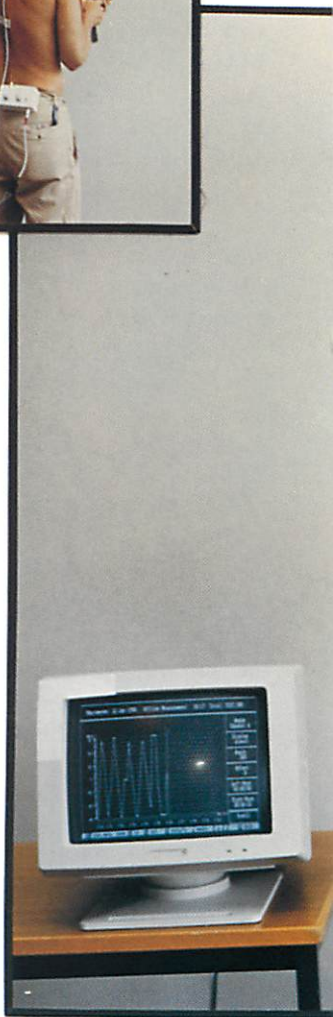
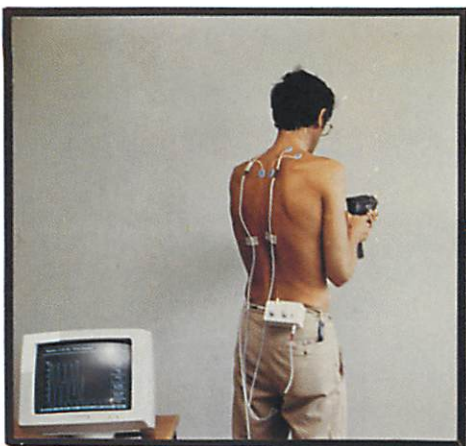
Weight : 190 g

FORCE TRANSDUCER

Accuracy : 0.5 % of full scale

Load ranges : 5 kg to 500 kg

Specifications subject to change without notice.



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