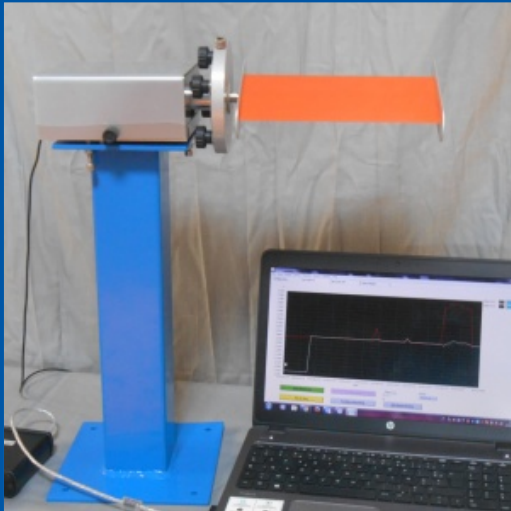


AERODYNAMIC BALANCES WITH STRAIN GAUGES

REFERENCE : EI400



Non contractual photo

SERVICE : 220V, 50HZ SINGLE PHASE

DIMENSIONS : ELECTRONIC UNIT : 265 X 105 X 84 MM; BALANCE: 200 X 150 X 60 MM; RIGID SUPPORT : 200 X 200 X 255 MM WEIGHT : BALANCE : 1 KG;

The aerodynamic balances of the EI400 series are specially designed for use with DELTALAB wind tunnels, but they can be adapted to other test methods. In the two-component version, they measure drag and lift forces. The three-component version provides an additional measure : the moment of lift. The scales of the EI400 series are mounted on a support stand. A plate allows to position the torque sensor without any mechanical connection with the test line, which avoids any parasitic transmissions (vibrations, friction).

The measurements are obtained by the deformation of a parallelogram of significant stiffness, equipped with strain gauges glued on the surfaces of the bars solicited by bending or twisting. Displacements are always weak and the profile under test remains parallel to itself. The decoupling of the lift, drag and moment of lift actions is achieved by a judicious choice of gauge wiring. An electronic unit provides power to the gauge bridges, amplification of bridge unbalance and switching between the different channels. The measured quantities are read on a digital display, directly in Newton for the forces and in Newton meter for the moments; the calibration having been carried out beforehand by the manufacturer. The EI400 series is equipped with a simultaneous 3-way analog output, depending on the number of components of the scale.

Technical specifications :

- Maximum lift moment (relative to the axis of rotation)
- Analog output : ± 10 V - 2 or 3 simultaneous channels (1 V ? 10 N or 10 mN)