

## 6 ~ COMPONENT OVERHEAD EXTERNAL BALANCE



### FEATURES:

- External overhead virtual centre balance
- Designed specifically for model race car testing
- 6 aerodynamic components measured separately
- High accuracy and repeatability
- Low deflection
- Model tare compensation system
- On board control and data acquisition system
- Insulation panels to prevent thermal effects
- Automatic calibration verification system
- Automatic locking system for model rigging safety

The AEROTECH Overhead External 6 Component Balance is a precision instrument, designed for accurate measurement of the aerodynamic loads on scale model racing cars. Located above the test section of a wind tunnel, it allows the user to test models with a moving belt ground plane without compromising the balance measurements. The moment resolution centre is designed to be coincidental with the top surface of the tunnel floor. The balance separates the total aerodynamic load into it's individual six components and then each component is measured by a single dedicated, highly accurate loadcell without the need to sum or difference signals in computer software.

### Technical Summary:

Component		Load Range
Fx	Drag	1000 N
Fy	Side Force	±500 N
Fz	Down Force	±3000 N
Mx	Roll Moment	±150 Nm
My	Pitch Moment	±600 Nm
Mz	Yaw Moment	±250 Nm

*The above figures are typical only as each balance is designed and manufactured to customer specific requirements. Different load ranges can usually be accommodated. Combined maximum error (1 sigma) of each component is expected to be better than ± 0.04% - in some cases better than ± 0.02% (particularly in Drag and Down Force).*

Automatic lift tare compensation: Up to 500 kg (model and strut weight combined)  
 Overload Capacity: Up to 50% fsd in all components  
 Approximate Space Envelope: 2.1m long x 1.87 wide x 1.3m high  
 Weight: Approximately 2000 kg



Head Office:  
 Crown Technical Centre, Burwash Road,  
 Heathfield, East Sussex, TN21 8QZ, UK  
 Tel +44 1435 865245 Fax +44 1435 865588  
 Email: [info@aerotech-ate.com](mailto:info@aerotech-ate.com)