

# WINDBLAST TESTING

*High-Speed Video · Advanced Data Collection · Components to Full-Scale Systems Testing*



**Uniform Airstream Velocities**  
*consistent with actual ejections*

### Unique Testing Facilities:

Aircraft emergency egress during flight generates substantial loads on the aircrew member, personnel equipment, and aircraft components. These aerodynamic forces can compromise occupant safety during the ejection scenario.

DTB's unique windblast testing capabilities, available in only a handful of facilities around the world, evaluates aircrew safety during emergency aircraft egress by simulating the air stream a pilot would be subjected to during ejection.

### Testing and Data Collection:

The windblast facility produces a high velocity air flow field similar to the aerodynamic environment external to the aircraft. This is accomplished with the controlled expansion of high pressure compressed air which exits from a rectangular nozzle.

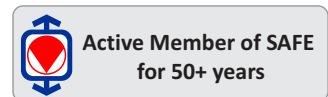
The air from the nozzle impinge on the test item, mounted on the positioning turntable. The dynamic effects are recorded with high-speed video cameras and electronic pressure transducers for analysis.

### Features and Benefits:

- The large subject flow field (3 ft. x 5 ft.) allows a variety of items to be tested.
- Test items experience peak velocities up to 650+ KEAS, higher velocities associated with advanced testing requirements.
- Improvements in compressed air handling have significantly reduced the 'fogging' effect, commonly occurring in humid environments, and allows a clearer view of the entire windblast event.
- Broadened windblast airstream more accurately simulates the ejection aerodynamic conditions, resulting in a more realistic test environment.
- Improved airflow produces symmetrical delivery, as well as enhanced air speed control and direction.
- Custom fixture design and fabrication services are available to support customer needs.

### Experienced Testing:

- Aircraft Canopies/Sections
- Breathing Systems
- Ejection Seats
- Flight Ensemble
- Helmets & Visors
- HUD Systems
- Inflation Equipment
- Laser Eye Protection
- Limb Restraints
- NBC Equipment
- Night Vision Systems
- Oxygen Masks
- Pilot Compatibility
- Retention Systems
- RSSK Kit
- Structural Integrity



**We're There.**



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