AVITEK

EDUCATIONAL WIND TUNNEL

Train for Tomorrow ..... TODAY

The educational wind tunnel is an economical, bench-top modular system perfect for demonstrations and students' hands-on experiments. It is designed with interchangeable bases to create known airflow configurations, it lets students examine air behavior and resistance around airfoils and other objects, and even allows for quantitative measurements of Bernoulli's Law. Test objects are introduced from the bottom. They are suspended from a measuring trolley that runs on rails build into the top of the clear work area. A force-resolving pulley unit and a dynamometer for measuring lift and drag plug directly into the trolley and the tunnel supports. You can perform experiments on topics such as:

- Dynamic pressure as a function of cross-section
- Verification of the Bernoulli equation
- Recording the polar coordinates of an airfoil
- Aerodynamic properties of air around an airfoil
- Measurement of air resistance of various objects

Our unit provides smooth airflows up to 9.5 m/s, using the Eiffel configuration (under pressure). It comes complete with the aerodynamically designed inlet and outlet; a turbulence sieve; protective mesh; two interchangeable bases, one flat and one ramp; and a dust cover. The clear plexiglass work area is 36 x 24 x 75cm and the mass of the entire unit (with ventilator) is 6 kg.

AERODYNAMICS ACCESSORIES

Using these accessories along with the Aerodynamics Air Source**,** you'll be able to measure air resistance and demonstrate the creation of life and drag on model air folds and other bodies. A trolley is included with supports for the test objects your students will study, along with a platform for drag test objects, such as model cars. The complete set of subject items, including six different drag producing bodies and an airfoil, gives you a wide variety of test shapes to choose from. You'll also get a unit for vertical life measurement. Using the optional Sector Dynamometer you'll be able to measure drag as well.

These accessories can be used with Wind Tunnel, or can be attached to the Adapter and Support Rail for free air stream experiments. Either way, you'll have a variety of experimental options to choose from.

SECTOR DYNAMOMETER

Measure forces up to 0.6 **N** in you aerodynamics experiments with the Sector Dynamometer. Its wedge shaped metal meter has a clearly marked scale that measures down to 0.01 N. Used with either the Wind Tunnel or the Adapter and Support Rail, it provides accurate readings of drag forces.

Avitek Engineering Corporation
G-5083 Miller Road, Flint, MI 48507, USA. Tel. 810-230-8096 Fax. 810-230-8017
Web: www. avitekcorporation.com Email: sales@avitekcorporation.com

AVITEK

RECHENBERG PRESSURE TUBE AND MANOMETER

With this sensitive system, you can measure small pressures and pressure differences in airflows of the type created by our Aerodynamics Air Source. Its Rechenberg--type double pressure tube is attached to our Precision Manometer, which is filled with a non-hygroscopic fluid. The apparatus comes with the pressure tube and manometer, tubing, a bottle of manometer fluid and a filling syringe. When set up, this apparatus can measure air pressures precisely up to 300 Pa, with a resolution of just 1 Pa.

VENTURI TUBE AND MANOMETER

Your students can observe an impressive verification of Bernoulli's Law, the relationship between air velocity and pressure, with this unique tube. The close-end tube narrows gradually to a constricted center. Seven lateral nipples let you observe the pressure at several points with the inclined tube manometer, which has five measuring tubes. The Venturi Tube fits directly into the end of the Air Source and is easy to set up.

ADAPTER AND SUPPORT RAIL FOR FREE AIR EXPERIMENTS

For experiments in free airflow behavior, use the Adapter and Support Rail with the Air Source. They support an assortment of drag shapes and the airfoil that are included in the Aerodynamics Accessories Set. You can also attach the Sector Dynamometer for precision drag measurements.

AERODYNAMICS AIR SOURCE

Our Aerodynamics Air Source is a low-noise air blower for all aerodynamics experiments. It is aerodynamically clean and fully adjustable, and the blower can provide air volumes of up to 875 m^3/h.

The air source supplies air at speeds of up to 8m/s from an 18cm-diameter opening. You can set it up either horizontally or vertically, and use it with either the Wind Tunnel or by itself, for free air stream experiments. The powerful blower comes with its own accessories including an adapter with a 100 mm diameter opening, and a 75 mm styrofoam ball that demonstrates levitation in an air stream. The air source comes attached to its own heavy plastic stand with a motor, a ventilator, a rheostat, and a 2m cable with a grounded plug.

Avitek Engineering Corporation
G-5083 Miller Road, Flint, MI 48507, USA. Tel. 810-230-8096 Fax. 810-230-8017
Web: www. avitekcorporation.com Email: sales@avitekcorporation.com