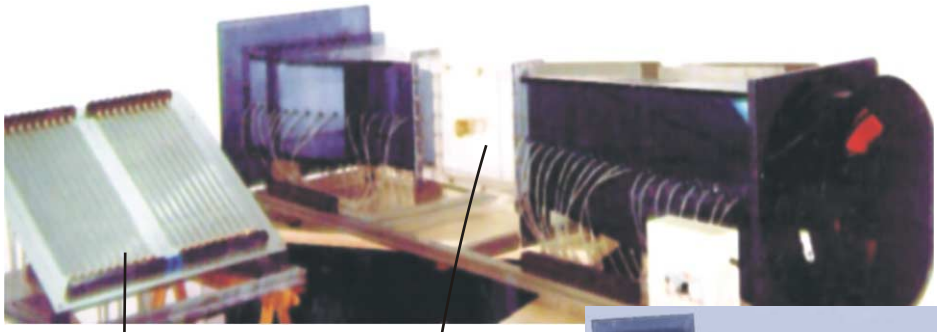
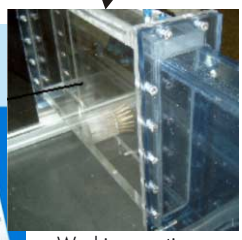
EDIBON
Technical Teaching Equipment

Aerodynamic Tunnel, 50 x 250 mm
TA50-250



Multi-manometer in detail



Working section in detail

Some available aerodynamic models:

Unit: TA50-250. Aerodynamic Tunnel, 50x250mm

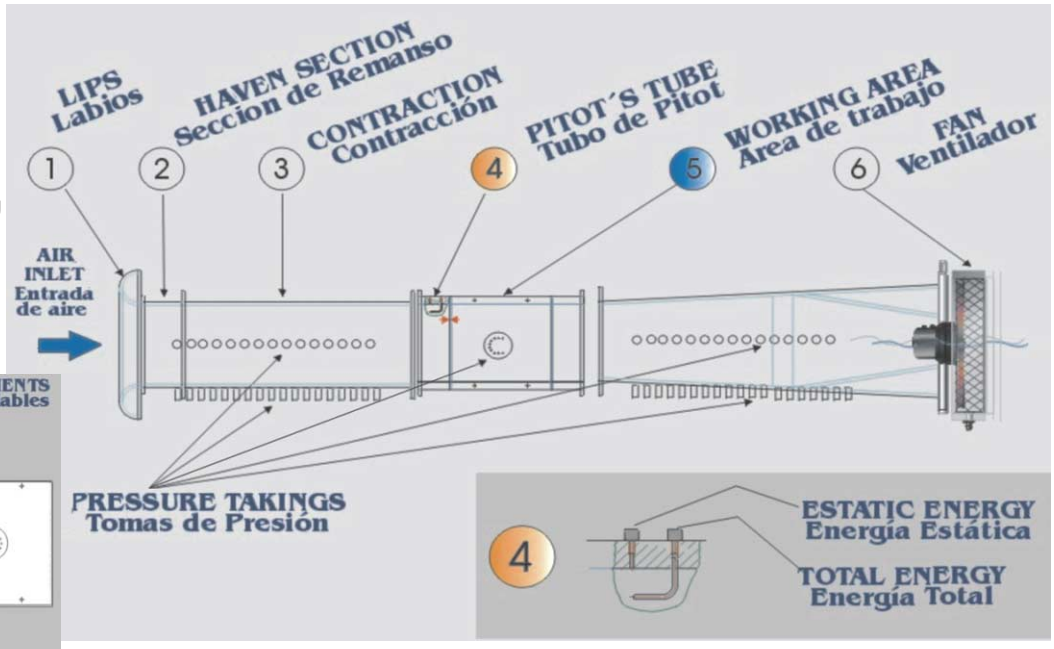
www.edibon.com
Products
Products range
Units
8.-Fluid Mechanics & Aerodynamics

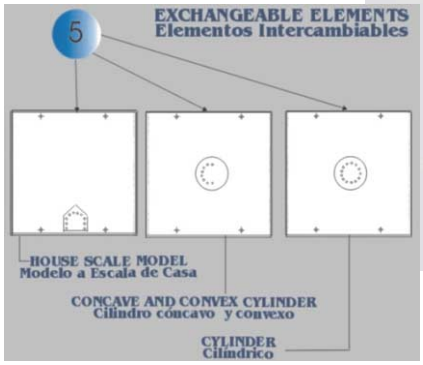
DESCRIPTION

Small, benchtop wind tunnel, with visible working section. It has an adequate size for demonstration test and teaching. Low operation and maintenance cost.
There is available a wide range of models and accessories that allow a comprehensive study of subsonic aerodynamics.

PROCESS DIAGRAM AND ELEMENTS ALLOCATION

90 different pressure takings (along the tunnel and in the models)





ISO:9001-2000 Certificate of Approval. Reg. No. E204034

European Union Certificate

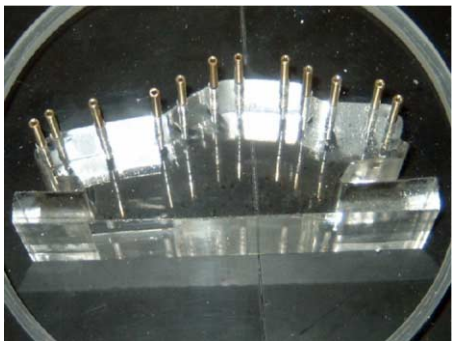
Certificates ISO 14001: 2004 and ECO-Management and Audit Scheme
(environmental management)

Worlddidac Quality Charter Certificate
Worlddidac Member

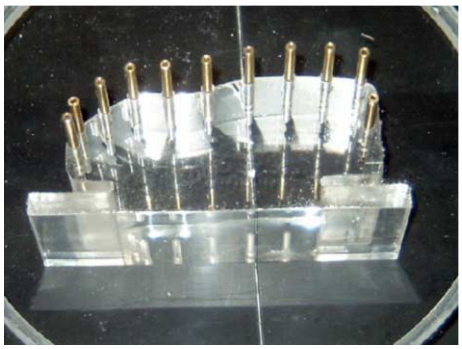
TA1. House scale model

TA2. Cylinder model

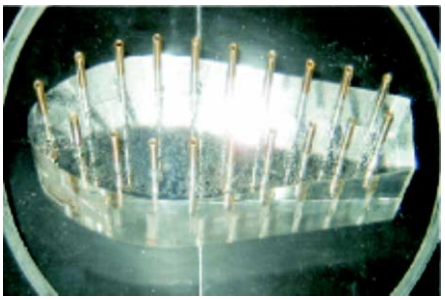
TA3. Convex semi-cylinder model



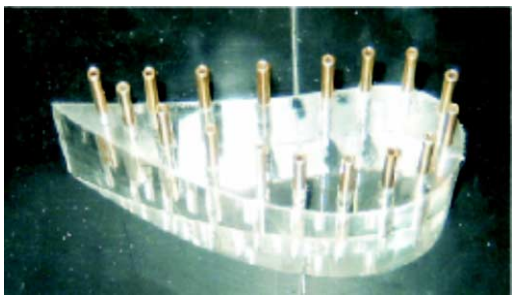
TA4. Car model



TA8. Train model

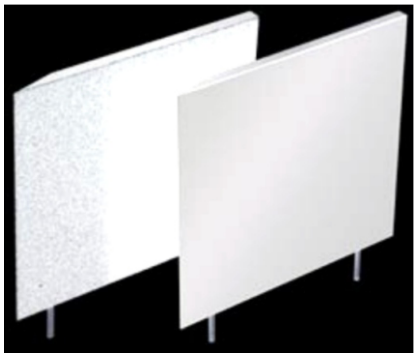


TA9. Projectile model



TA11. Wing of a plane model

TA14. Bernoulli Apparatus model



TA15. Boundary Layer Plate model

Other available models:

- TA5. Lorry model.
- TA6. Lorry with wind deflector model.
- TA7. Plane model.
- TA12. Concave semi-cylinder model
- TA13. Blunt Element model.

SPECIFICATIONS

Anodized aluminium structure. Main metallic elements in stainless steel.
Diagram in the front panel with similar distribution that the elements in the real unit.
Small, benchtop wind tunnel of open circuit and subsonic flux.
Transparent working area for visibility of 50 x 250 mm, including the removable panel to place a wide range of aerodynamics models.
Water Multi-manometer:
- **Anodized aluminium structure.**
- **30º inclination.**
- **20 manometric tubes of 250mm. length. Tubes inner diameter: 8mm, to avoid bubbles.**
- **Water tank for filling.**

90 different pressure takings (along the tunnel and in the models).
Pitot's tube.
Variable speed fan.
Models included in the standard supply:
- **TA1. House scale model.**
- **TA2. Cylinder model.**
- **TA3. Convex semi-cylinder model.**

OPTIONAL models:
- TA4. Car model.
- TA5. Lorry model.
- TA6. Lorry with wind deflector model.
- TA7. Plane model.
- TA8. Train model.
- TA9. Projectile model.
- TA11. Wing of a Plane model.
- TA12. Concave semi-cylinder model
- TA13. Blunt Element model.
- TA14. Bernoulli Apparatus model.
- TA15. Boundary Layer Plate model.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

1.- Comprehensive study of subsonic aerodynamics and air flow studies.
2.- Flux in a nozzle. Determine the characteristics of the pressures field in a nozzle.
3.- Flux in an nozzle. To observe the local characteristics, depending on whether the walls have a curvature or not, as well as what happens in the inlet and outlet areas of the contraction.
4.- Flow of an uniform current around a cylinder.
5.- To determine the form of the field of pressures around a cylinder on which a perpendicular to the axis current impacts.
6.- To determine, by the detachment type, if the boundary layer finally becomes turbulent or remains laminar.
7.- To determine the coefficient of resistance of the cylinder, for the described situation of flow.
8.- To relate all the above mentioned with the Reynolds's number.
9.- Flow of an uniform current around a concave and a convex semi-cylinder.
10.- To determine the field or pressures in the two semi-cylinders, the concave one and the convex one.
11.- To determine the coefficients of aerodynamic resistance in the concave and the convex semi-cylinders.
12.- Aerodynamics forces due to the wind on house.
13.- Measurement of pressure distribution around body two dimensional.
14.- Flow visualization studies.
15.- Velocity and pressure distribution measurement using a Pitot's tube.
16.- Filling the manometric tubes.

REQUIRED SERVICES

-Electrical supply: single-phase, 220 V / 50 Hz. or 110 V/ 60 Hz.
-Water supply and drainage.

DIMENSIONS & WEIGHTS

-Dimensions: 2720 x 820 x 700 mm. approx.
-Weight : 220 Kg. approx.

OPTIONAL ACCESSORIES

Aerodynamic models:
- TA4. Car model.
- TA5. Lorry model.
- TA6. Lorry with wind defector model.
- TA7. Plane model.
- TA8. Train model.
- TA9. Projectile model.
- TA11. Wing of a Plane model.
- TA12. Concave semi-cylinder model.
- TA13. Blunt Element model.
- TA14. Bernoulli Apparatus model.
- TA15. Boundary Layer Plate model.

AVAILABLE VERSIONS

Offered in this catalogue:

- **TA50-250.** Aerodynamic Tunnel, 50 x 250 mm.

Offered in other catalogue:

- **TA50-250C.** Computer Controlled Aerodynamic Tunnel, 50 x 250 mm.

✱Specifications subject to change without previous notice, due to the convenience of improvements of the product.

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REPRESENTATIVE: