

# HIGH SPEED EXPERIMENTAL SUBSONIC BLOWER



*Non contractual photo*

**SERVICE : POWER SUPPLY : 380/440 V  
THREE-PHASE, 50 HZ (OTHER VOLTAGES  
ON REQUEST)  
DIMENSIONS : 8300 X 1950 X 2250**

**WEIGHT : 450KG**

## REFERENCE : EA130

The EA130 subsonic wind tunnel is a high-level technical teaching tool to perform experiments in aerodynamics, coupled with a powerful research instrument. This blower generates a low turbulence airflow for use with an optional hot wire anemometer at speeds up to 60 m / s. The glass test vein (300 x 300 x 1500 mm) allows measurements using optical techniques such as laser anemometry and flow visualization. Different accessories (wing profiles, pitot tube) can be fixed in this test vein to check the laws of subsonic aerodynamics. This wind tunnel is integrated in laboratories or test halls without facilities or civil works.

### Educational Objectives :

**The wind tunnel allows aerodynamic experiments such as :**

- The measurement of the flow velocity and the tracing of velocity profiles in different sections of the test vein
- Measurement of the pressure distribution on the lower and upper surfaces of a wing profile
- Measurement of lift, drag and moment of lift with a 2 or 3 component aerodynamic balance on different wing profiles depending on the impact (optional equipment)
- Visualization of the flow

### Technical specifications :

- The high performance centrifugal fan is driven by an asynchronous motor. The rotation speed of the fan is controlled by an electronic frequency converter.
- The fan delivers, through a divergent, into a plenum, equipped with a bag filter, a honeycomb, and three bronze fabric screens.
- A convergent, with a contraction ratio of 25, ensures a very good quality of the flow at the entrance of the test vein. This convergent is calculated in two-dimensional, considering a potential flow with turbulent boundary layer correction.
- The vein of tests, has two vertical glass walls, one of which fully flush allows access to the interior of the test vein. The upper part of the test vein has a longitudinal slot equipped with seals for the passage of a probe.
- A divergent downstream of the test vein makes it possible to recover a large part of the pressure drop, and makes it possible to avoid upward disturbances in the flow.
- Fine dust bag filters
- A honeycomb

### OPTIONS :

A rack mounted on rails can receive a vertical displacement device for the EA605 / S ref probes.