

WT 180-500 Wind tunnel

New

Kimo designs and manufactures instruments for measuring and monitoring air parameters. In order to satisfy its customers, Kimo has developed a regulated wind tunnel for calibration service.

This duct air installation is mainly dedicated to adjustment and calibration of air velocity sensors (Pitot tube, vane probe anemometer, hot wire, ...) over a wide air velocity range. It also allows to perform scientific experimentations.



TECHNICAL FEATURES

| | |
|---------------------------------------|-------------------------|
| Diameter of aspiration cone | 355 mm |
| Air velocity | from 0.30 m/s to 28 m/s |
| Turbulence rate | < 1% |
| Power supply | monophasic 220 V |
| Engine power / Frequency variator | 500 W |
| Overall dimensions of the wind tunnel | 2800 x 620 x 1600 mm |
| Free area in front of exhaust room | 1 m |
| Sound level | 80 dBA |
| • Useful area | |
| Output diameter of venturi | 180 mm |
| Effective measurement length | 150 mm |

OPERATING PRINCIPLE

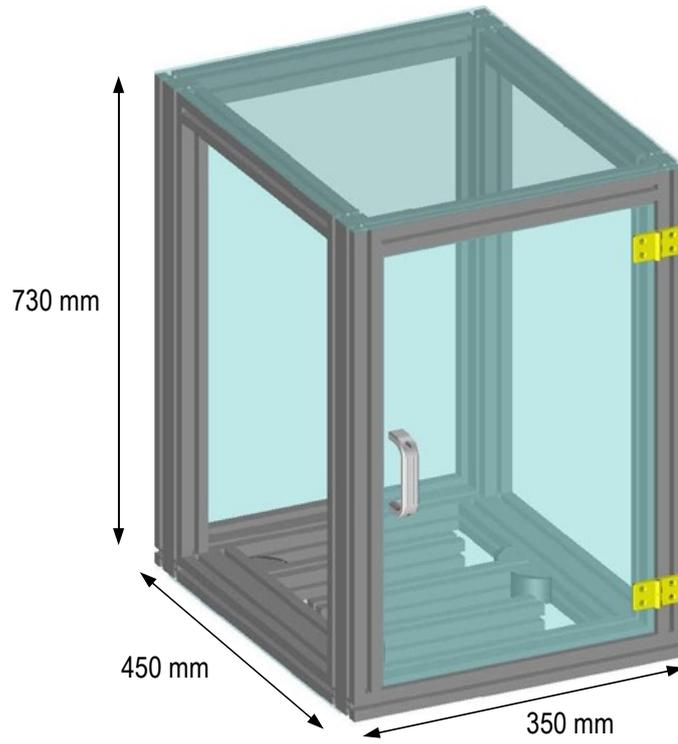
This "Eiffel" type wind tunnel operates in an open environment. Fresh air is sucked throughout a nozzle which allows acceleration and transportation of fluid toward the measurement vein before being rejected outside by an centrifugal fan.

ADVANTAGES

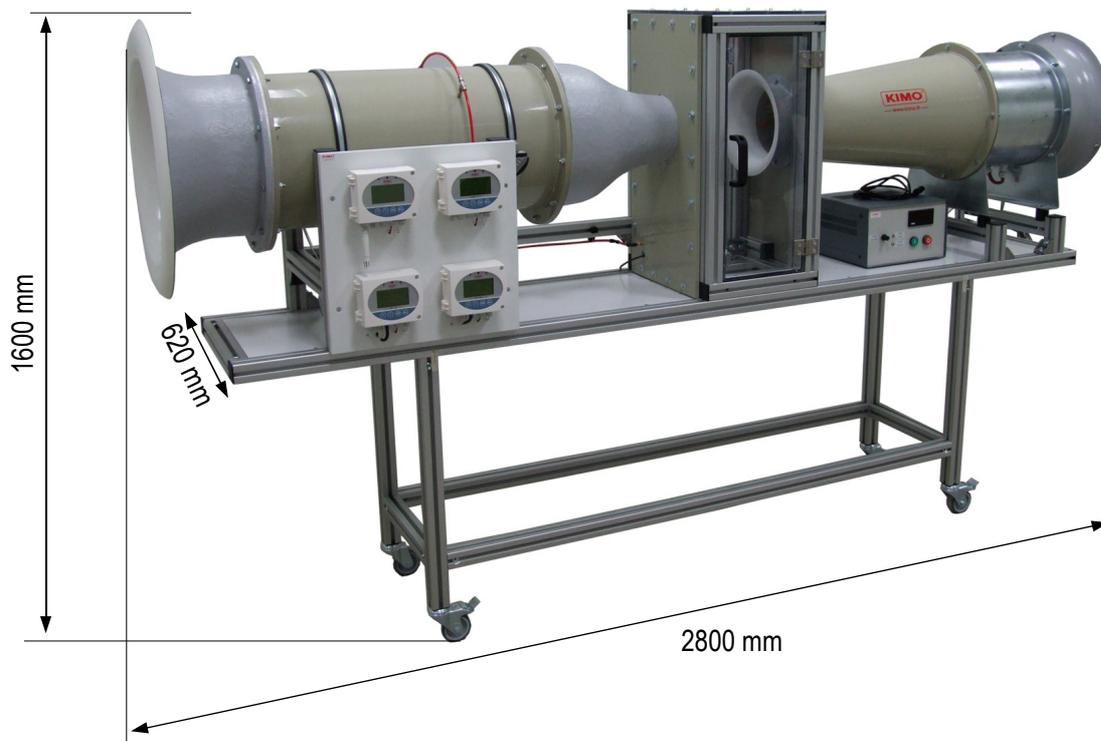
- Low turbulence rates
- Sucked air comes from environment (inert and iso-temperature)
- Wide air velocity range
- Insensitive to pressure losses

TECHNICAL FEATURES

- Measurement box



- Overall dimensions



ACCESSORIES

- Adjustable position of the sensor by rapid fixing on Bosch section aluminium
- Door of the measurement box with hole for Pitot tube
- Pressure taps for speed measurement on Venturi
- Honeycombed part at exhaust entrance and air recycling inside the box
- Flux rectifier at engine input
- Height adjustable foot
- Static converter of the engine
- Regulated engine by remote control
- Workstation under the bench

OPTIONAL

- Traceable calibration by COFRAC with Laser Doppler (factory connection)
- Support for \varnothing 70 and 100 mm vane probes, for hotwire probe and hotwire telescopic probe
- Instrumentation
- Software

➤ Calibration with laser Doppler

- Calibration of 10 measurement points over the complete instrumentation chain (hotwire + venturi) by comparison with Laser Doppler, COFRAC calibrated. Then correction table is directly entered into the software.

Calibration



➤ Probe support

- Hotwire probe, hotwire telescopic probe or \varnothing 14 vane probe
- \varnothing 70 vane probe
- \varnothing 100 vane probe

Instrumentation



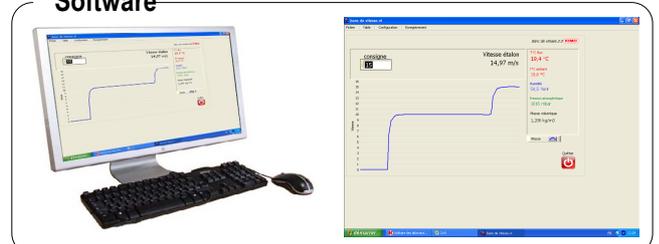
➤ Instrumentation

- Hotwire probe from 0.15 to 5 m/s
- Pressure sensor with Venturi from 5 to 40 m/s
- Climatic condition sensor for measurement of temperatures (0-50 °C), hygrometry (10-90 %) and atmospheric pressure (800-1100 hPa).

➤ Software and PC

- Pilot software of the bench with spindle servo of airflow to compensate the pressure losses
- Self compensating of climatic conditions
- Graphic display of airflow
- Possibility to integrate a table of air velocity correction

Software



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