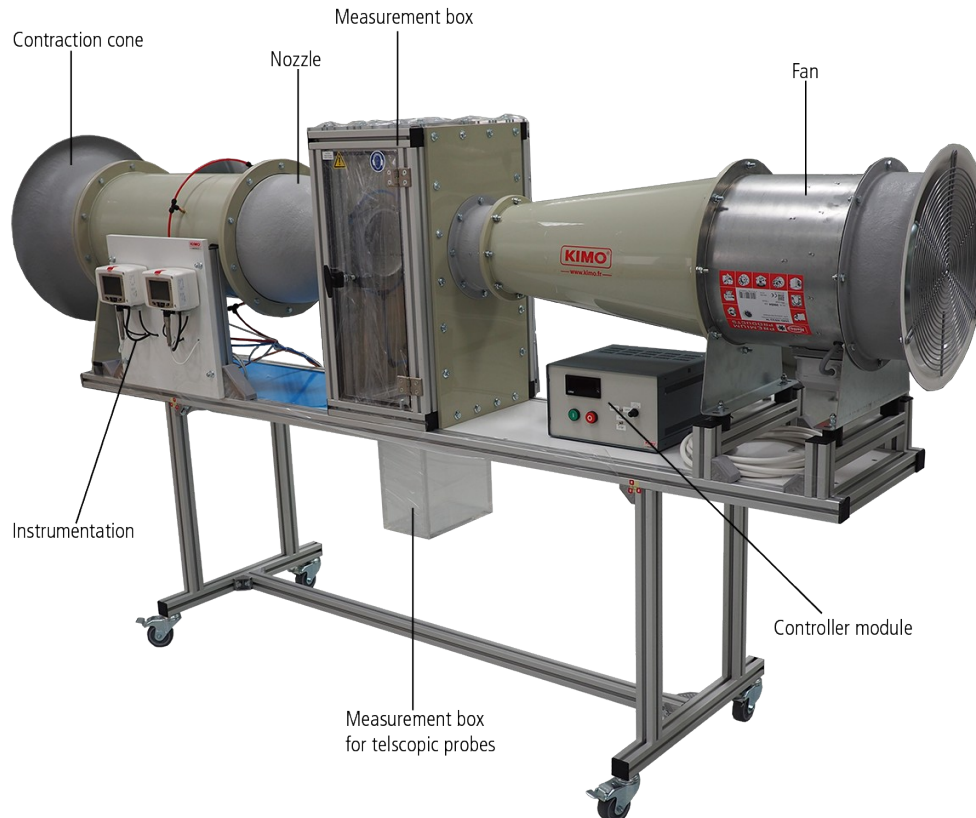


WT 180-3000 Wind tunnel

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

Air velocity	from 0.30 m/s to 40 m/s
Turbulence rate	< 1%
Power supply	Three-phase 380 Vac \pm 10%, 230 Vac \pm 10%
Engine power	3 kW
Diameter of aspiration cone	355 mm
Output diameter of venturi	172 mm
Sound level	90 dBA at 1 m
Protection	IP20
Weight	150 kg
Environmental conditions of use (°C; %RH; hPa)	From 10 to 30 °C. From 10 to 90 %RH. From 800 to 1100 hPa For indoor use only.
Pollution	Category II
Overvoltage	Category II

OPERATING PRINCIPLE

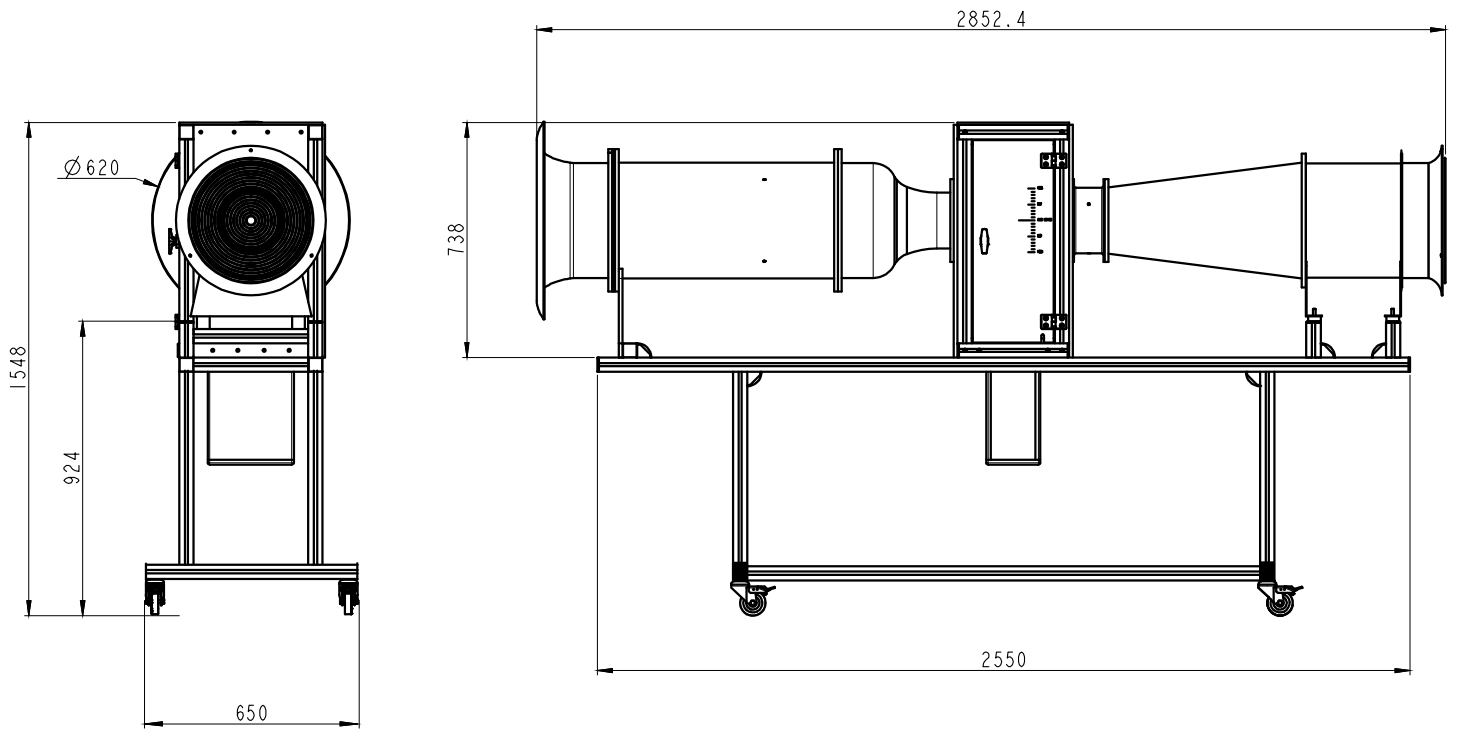
This wind tunnel operates in an open environment. Fresh air is sucked throughout a nozzle which allows acceleration and transportation of fluid towards the measurement vein before being rejected outside by a centrifugal fan.

ADVANTAGES

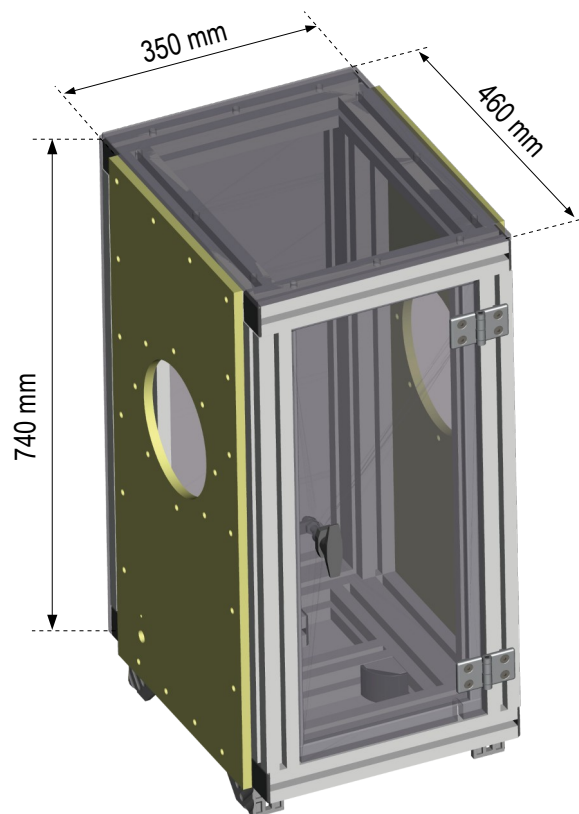
- Low turbulence rates
- Sucked air comes from environment (inert and iso-temperature)
- Wide air velocity range
- Insensitive to pressure losses
- Transparent measurement box
- Possibility to calibrate all kinds of anemometer

MEASUREMENT BOX AND WIND TUNNEL DIMENSIONS

• Full wind tunnel



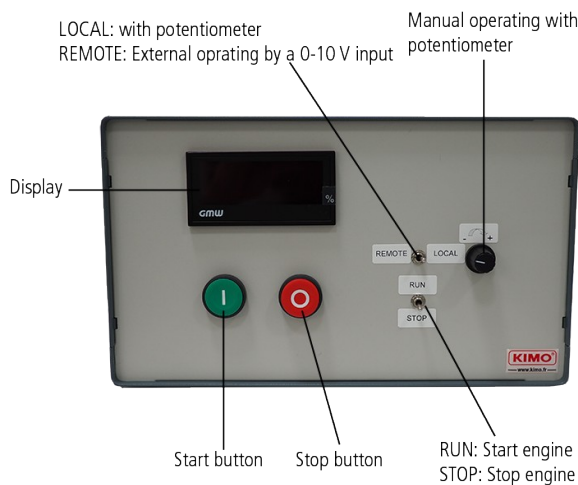
• Measurement box



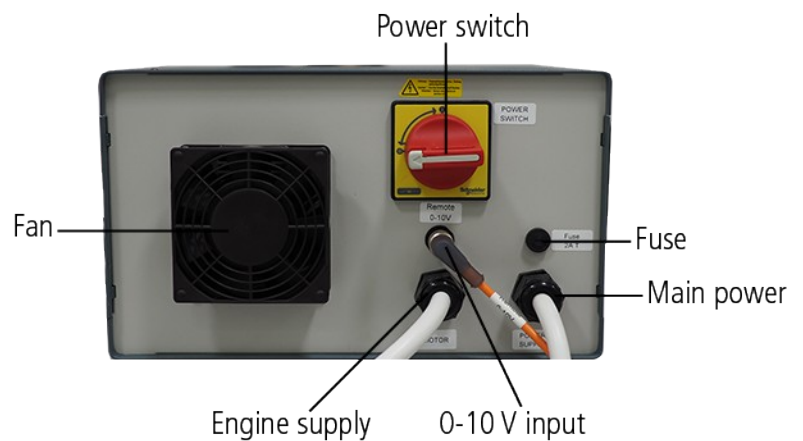
SUPPLIED WITH

- Support for KIMO probes by rapid fixing on aluminium section (hotwires and $\varnothing 14$ mm, $\varnothing 70$ mm and $\varnothing 100$ mm vane probes)
- Pressure taps for air velocity measurement on Venturi
- Flow stabilising at the suction input
- Fan controlled by a potentiometer on the controller module
- Instrumentation :
 - Hotwire probe from 0.30 to 5 m/s
 - Pressure transmitter with nozzle from 5 to 40 m/s
 - Climatic conditions transmitter for measurement of temperature (0-50 °C), hygrometry (10-90%RH), and atmospheric pressure (800-1100 hPa).

CONTROLLER MODULE



Front view of the controller module



Back view of the controller module

OPTIONAL

> Calibration of Pitot tubes

Specific door of measurement box with holes for calibration of Pitot tubes



> Software and instrumentation

It allows to adjust and calibrate the wind tunnel and in this way to perform a metrological monitoring.

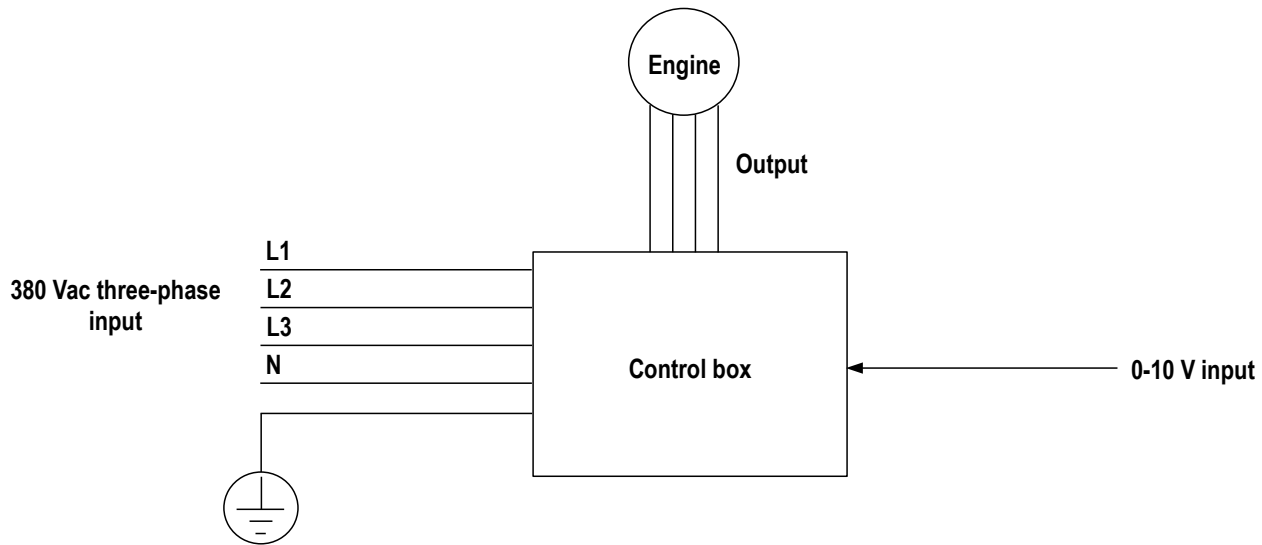
- Pilot software of the bench with airflow control to compensate the pressure losses
- Graphic display of air velocity
- Standard hotwire probe from 0.30 to 5 m/s for adjustment and calibration of the wind tunnel
- Standard pressure sensor and Pitot tube from 5 to 40 m/s for adjustment and calibration of the wind tunnel. These standards are linked to national standards (COFRAC).



ELECTRICAL CONNECTIONS



**These connections must be made by a qualified technician.
The wind tunnel must be used in normal conditions of use defined by the manufacturer.**



MAINTENANCE

- Every maintenance operation must be performed by qualified and trained technician. The wind tunnel must not be energized.
- A calibration of the instrumentation must be performed once a year.
- A regular cleaning of the filter at the beginning of the wind tunnel must be performed.
- Clean the wind tunnel and the filter with a soft cloth, a soft brush and a vacuum cleaner. Do not use any product containing alcohol.

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