Identification of the installation/facility :

Country: Italy
Location (city): Milano
Name of the facility: GVPM
Date of construction or of acquisition or of main refurbishment: 2000
Owner: Politecnico di Milano
Contact point: Giuseppe Gibertini
Internet site: www.windtunnel.polimi.it

Technical characteristics:

1 - Type of infrastructure

Wind tunnel	☒
Propulsion bench	☐
Structures facility	☐
Material facility	☐
Simulator (ex. Flight simulator, tower, …)	☐
Flight test bed (aircraft, embedded facilities, …)	☐
Supercomputers	☐
Other	☐

2 - Main technical characteristics

Close circuit, atmospheric, continuous low speed wind tunnel. Two test sections: a low turbulence test chamber (aeronautical) and a larger test chamber suitable for wind engineering tests with atmospheric boundary layer simulation.

Mean features

Aeronautical test section:
- 4m x 3.84m: $0 \leq V \leq 55$ m/s

Configurable in closed wall or open jet configuration.

Wind engineering test section:
- 13.84m x 3.84m: $0 \leq V \leq 16$ m/s

Model support:
- Remotely controlled vertical pylon allowing for incidence and side-slip setting
- Rear sting mounting for very high angles of attach
- Rotor support with driving motor
- Several 6-components internal balances

Auxiliary systems:
- Compressed air supply
- 300 kW electrical power supply for model motorization
- Suction system for air intake tests
- Traversing systems for probe positioning
- Simultaneous sampling DAQ system

Typical tests

- Configuration studies, data base creation (for aircraft and helicopters)
- Helicopter rotor tests
- Air intake simulation for aircraft and helicopters
- Sport tests
- Bridges and building tests in atmospheric boundary layer

3 - Research domains which can be addressed (refer to ACARE taxonomy http://www.acare4europe.com/sites/acare4europe.org/files/document/ASD-Annex-final-211004-out-asd.pdf)

1. Flight Physics
   a. Unsteady Aerodynamics
   b. Airflow control
   c. High Lift Device
   d. Wing Design
2. Aerostructures
   a. Smart Material and Structures

10. Innovative Concepts and Scenarios
    a. Unconventional configurations and innovative aircraft

4 - Main (or specific) associated measurement techniques

Load measurement (strain gauge balances)
Pressure measurements (steady and unsteady)
3C Particle Image Velocimetry
Hot wire anemometry

5 - Operational status

- Fully operational 1200 hours available per year

6 - Picture:

Financial elements:

Replacement cost (M€uros)	
Less than 10	☐
10 to 30	☒
30 to 60	☐
60 to 100	☐
More than 100	☐

Practices concerning:

Access policy: contract, voucher, free access for research, etc…) Contract

Support (regional, national, European, private, …) national

Comments:

Origin of information ('signature'): author and date

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