

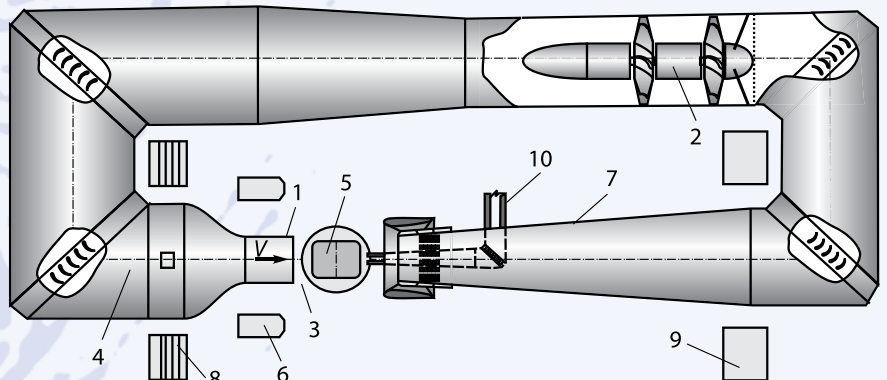


## Main Technical Parameters

Flow velocity ..... 10...120 m/s  
 Re number per 1 m ..... up to  $8 \cdot 10^6$   
 Static pressure ..... ambient  
 Dynamic pressure ..... up to 8.8 kPa

Stagnation temperature ..... ambient  
 Test section sizes:  
 Nozzle diameter ..... 7 m  
 Length ..... 13 m

1. Nozzle
2. Two-stage fan
3. Test section
4. Settling chamber
5. Wind tunnel balance section
6. Operator's station
7. Diffuser
8. Air supply trunk
9. Air exhaust ventilation trunk
10. Gas escape equipment



## General Description

T-104 Subsonic Wind Tunnel is a continuous operation closed lay-out facility with one reverse duct and open test section. The airflow is generated by two-stage fan and electrical motors of 28.4 MW total power.

The WT is equipped with electrical six-component balance and the set of external and internal strain gage balance to measure the aerodynamic forces and moments of aircraft models and their structural components as well as with the measuring and computing complex.

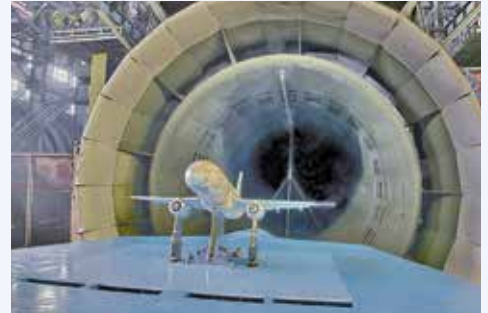


DREAM Project Open Rotor

## Capabilities

T-104 WT makes it possible to carry out the tests and studies as follows:

- Research of full-scale propulsion systems, static and dynamic properties and measuring the engine thrust up to 100 kN;
- Evaluation of single and contra-rotating propellers, aerodynamic and acoustic properties by use of propeller test rigs;
- Determination of total and distributed aerodynamic characteristics of aircraft models;
- Research of static and dynamic aeroelasticity properties in re of large-scale, elastically and dynamically-scaled aircraft models by use of specific test techniques and equipment;
- Conventional and special tests on industrial aerodynamics with/without stationary shield to evaluate the ground influence;
- Physical researches (measuring the pressure distribution based on electron modules, visualization of flow around by various methods etc.).



EURAM aircraft model 3AS (FP5)

## Technological Advantages

- Capabilities to carry out the various full-scale objects or their large-scale models tests under high Re numbers.
- Testing the airplanes and helicopters or their models with actual engines or engine simulators.



## Application

Practically all of national aircraft, turboprop engines, air propellers and open rotors, air intakes at high and supercritical angles of attack are tested and optimized in T-104 WT.

