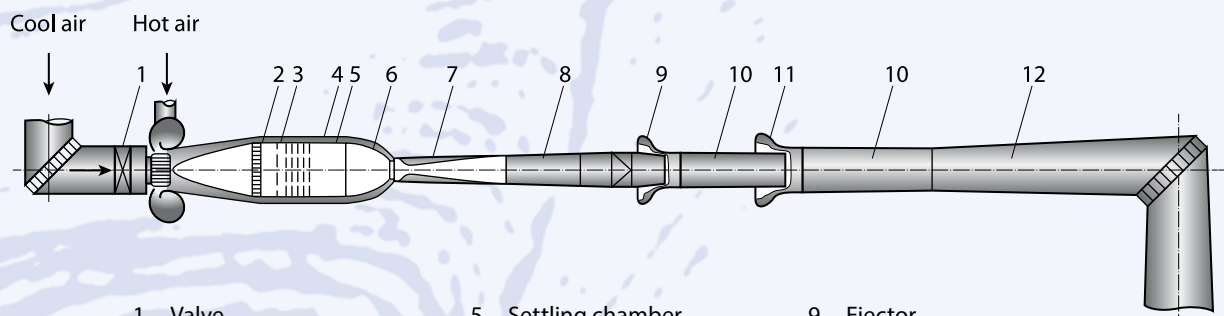


Main Technical Parameters

Flow M number 1.75...4.0
 Re number per 1 m $26 \cdot 10^6 \dots 35 \cdot 10^6$
 Total pressure 186...687 kPa
 Dynamic pressure 50...78 kPa
 Stagnation temperature ambient
 Run duration not limited
 Angles of attack range (α) $-4^\circ \dots 24^\circ$

Test section dimensions:
 Cross section area 0.6×0.6 m
 Length 1.9 m
 Model dimensions:
 Length up to 0.6 m
 Wing span up to 0.36 m



- | | | |
|-------------------------|---------------------|--------------------|
| 1. Valve | 5. Settling chamber | 9. Ejector |
| 2. Honeycomb | 6. Collector | 10. Mixing chamber |
| 3. Deturbulising meshes | 7. Nozzle box | 11. Ejector |
| 4. Screen | 8. Test section | 12. Diffuser |

General Description

T-113 WT is a high-supersonic blowdown straight-through facility with closed test section. The WT is equipped with two ejectors. The operational envelope is implemented by nine removable nozzles.

One ejector is used to realize $M = 1.75 \dots 3.25$. To reduce loads on model and suspension devices in the range of $M = 1.75 \dots 4.0$ the model may be tested with two powered ejectors under reduced total pressure P_0 in settling chamber. The WT is equipped with four-component EM balances and a set of strain gage balances to measure forces and moments that act on tested models.

Capabilities

T-113 experimental capabilities allow to:

- Determine the total balance characteristics of aircraft models and their components;
- Determine the aircraft controls hinge moments;
- Measure the static pressure distribution over the aircraft model surface;
- Test half-wings and empennage models;
- Test infinite wing span models;
- Use flow field Schlieren visualization;
- Perform physical studies (laminar-turbulent transition visualization by China clay, PSP, etc.),
- Study the supersonic aircraft model near field for the sonic boom estimation.

Technological Advantages

Suspension for infinite wing span models allows performing the full range of experimental research.

Application

T-113 WT is an experimental facility to test parametrically aircraft, rocket, and aerospace engineering models. In addition the T-112 capabilities are widely used for physical research.

