

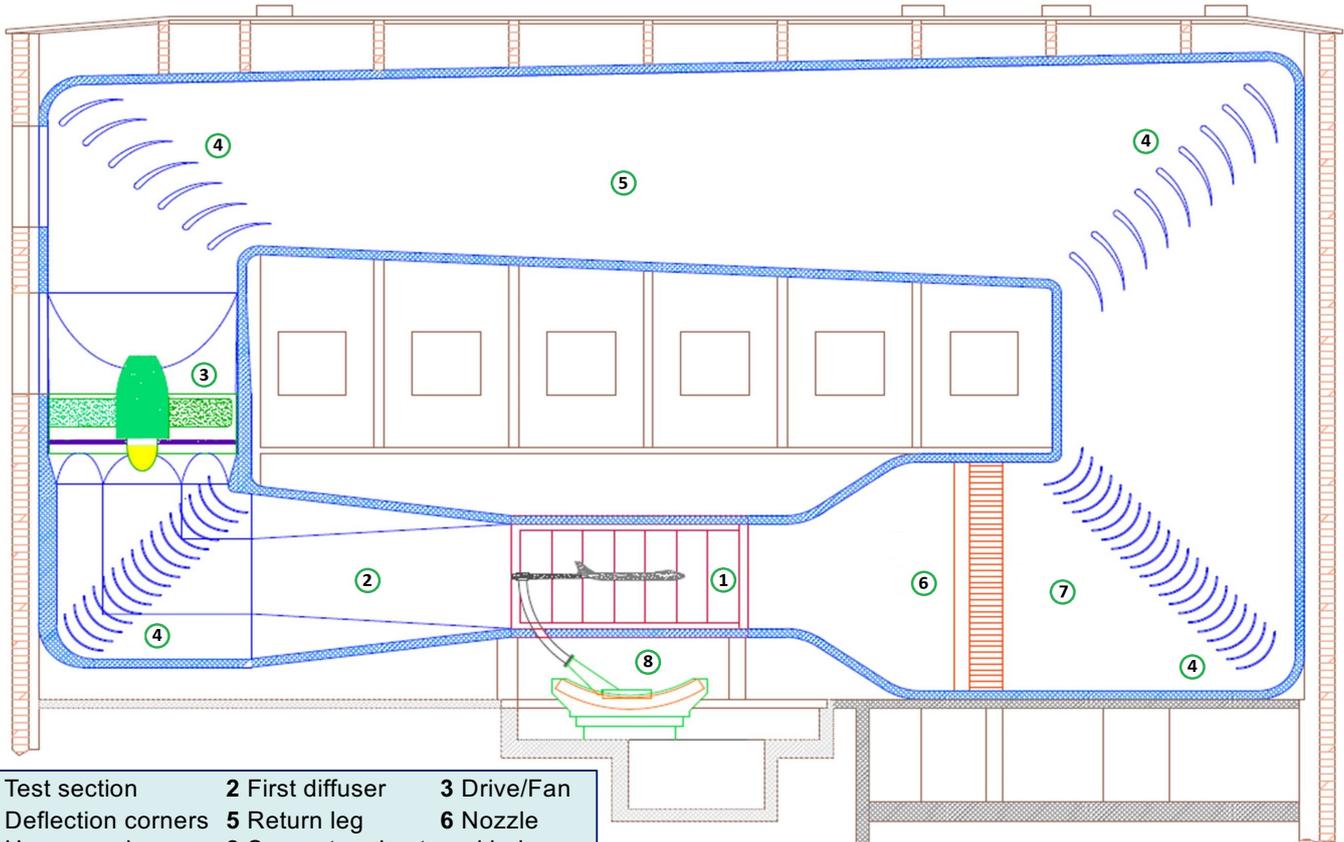
2.2 m x 2.9 m SUBSONIC WIND TUNNEL



TECHNISCHE
UNIVERSITÄT
DARMSTADT



Institute of Fluid Mechanics and Aerodynamics
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- | | | |
|----------------------|--------------------------------|-------------|
| 1 Test section | 2 First diffuser | 3 Drive/Fan |
| 4 Deflection corners | 5 Return leg | 6 Nozzle |
| 7 Honeycomb | 8 Support and external balance | |

TEST SECTION

Length	4.8	m
Width	2.9	m
Height	2.2	m
Test section area	6.38	m ²

FLOW CONDITION

Velocity	0 ... 68	m/s
Dynamic pressure	0 ... 2800	Pa
Reynolds number	0 ... 1.1 * 10 ⁶ *)	
Mach number	0 ... 0.2	

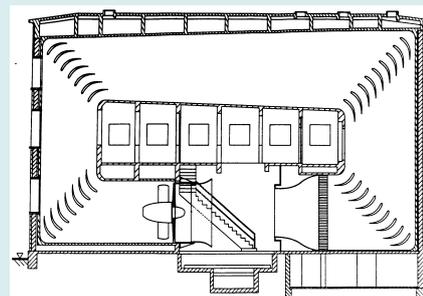
DRIVE

DC electric drive		
Drive power	300	kW
Rotation speed	0 ... 1000	RPM
Speed control	Fan variable	RPM

FIELDS OF RESEARCH

Education and research
Aircraft aerodynamics
Wind power aerodynamics
Industrial aerodynamics
Vehicle aerodynamics

Wind tunnel \varnothing 3m
open test section
max. 35 m/s



1936
until
1989

Recommissioning after 2nd World War
New drive 300 kW - DC electric drive
New support - rear handle
Closed test section - external wind tunnel balance
Computer control - dynamic pressure control
Traversing system AOSTA
Introduction of optical measuring methods (PIV)
Upgrade to National Instruments and LABview® control
Wind tunnel automation

1955
1973
1979
1989
1994
1996
2001
2006
2016

*) based on $0.1 \cdot \sqrt{c}$