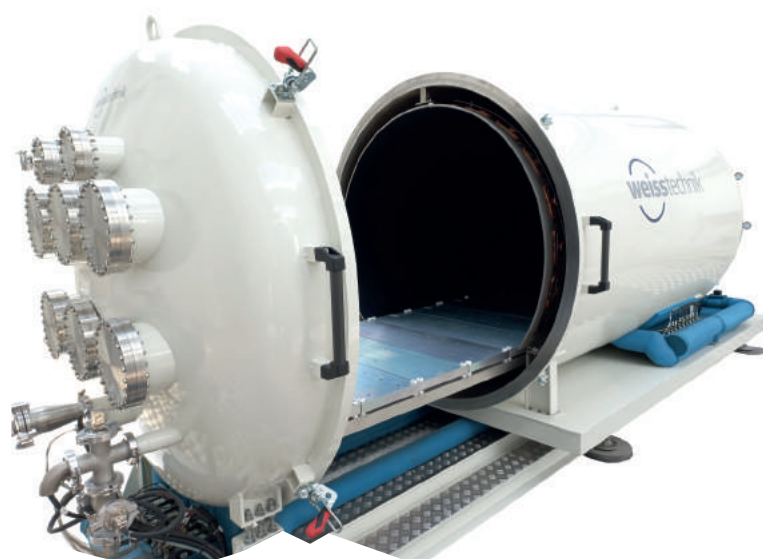




Łukasiewicz
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Łukasiewicz – Institute of Aviation
carries out environmental tests
according to DO-160 and ECSS standards

ENVIRONMENTAL TESTS

tests in the conditions typical of a high or very high-altitude environment

- / random and sinusoidal vibrations / repeated mechanical shocks
- / corrosion resistance / combined vibration and temperature
- / humidity vibrations in clean atmosphere / resistance to high and low temperatures / cyclic temperature changes / resistance to temperature and atmospheric pressure changes / high humidity resistance
- / frost and moisture resistance / dust and sand resistance
- / water (rain, spray, splash) resistance / sunlight resistance / vacuum

EQUIPMENT

THERMAL VACUUM CHAMBER WEISS

Volume	4,5 m ³
Volume level	down to 10 ⁻⁶ mbar
Temperature range	-180°C to +165°C
Cooling system	liquid nitrogen
Cleanroom ISO7	
Quartz crystal microbalance [QCM]	
Quadrupole residual gas analyser [RGA]	

TEMPERATURE/PRESSURE TEST CHAMBER CLIMATS 1000FCV 70/1 COUPLED WITH DECOMPRESSION TESTING UNIT EVA-512

Dimensions of the test section	1000 x 1000 x 1000 mm (1000 l)
Temperature range	-70°C ÷ +180°C
Pressure range	1070 hPa to 10 hPa without temperature control, or to 50 hPa with temperature control

MOVABLE CLEAN-BOX SC-35/25/29

Dimensions	3,5 x 3,0 x 2,6 m
Strip curtains	made of antistatic clear PVC
HEPA Filter	ISO7
Automatic air Flow	0,45 m/s

Applicability in vibrations testing in clean air.

SPRAY AND SPLASH WATER TEST CHAMBER SWT 600/800 WITH THE S!MPAC CONTROLLER

Dimensions of the test section	1810 x 1800 x 1800 mm (5800 l)
Rotary table diameter	600 mm
Tests according to DIN EN 60529:	IPX1, IPX2, IPX3, IPX4, IPX5, IPX6 and IPX6K

SUN SIMULATION TEST CHAMBER SUNEVENT SUN/1000

Dimensions of the test section	1000 x 1000 x 1000 mm (1000 l)
Irradiation unit	metal halide lamp 2500 W
Light range	280 – 3000 nm
Irradiation intensity	400 – 1125 W/m ²

DUST TEST CHAMBER ST 2000U WITH THE S!MPAC CONTROLLER

Dimensions of the test section	1000 x 1900 x 950 mm (1800 l)
Testing possible in temperature of value up to 55°C according to DIN EN 60529 (IP 5X, IP 6X) and NO-06-A107:2005 Underpressure port	

CLIMATIC TEST CHAMBER CLIMATS 1200 H 70/5

Dimensions of the test section	1000 x 1100 x 1100 mm (1200 l)
Temperature range	-70°C ÷ +180°C
Temperature change rate	5°C/min
Humidity range	20% ÷ 95%

CLIMATIC TEST CHAMBER CLIMATS 4000 H 70/4G

Dimensions of the test section	2000 x 1900 x 1060 mm (4000 l)
Temperature range	-70°C ÷ +180°C
Humidity range	20% ÷ 95%

CLIMATIC TEST CHAMBER CLIMATS EXCAL 7728-HE

Dimensions of the test section	900 x 950 x 900 mm (770 l)
Temperature range	-90°C ÷ +200°C
Temperature change rate	17°C/min in the temperature range -55°C to +180°C
Humidity range	20% ÷ 95%

SALT SPRAY TEST CHAMBER SF/CCT/VH

Dimensions of the test section	850 x 2000 x 1000 mm (1700 l)
Temperature range	From ambient temperature up to +65°C
Testing according to	MIL STD-810E, ISO 6270-2 DIN 50.02, ASTM 13117
Humidity range	50% to 95% at 20°C 30% to 95% at 30°C 15% to 95% at 60°C

SHAKER IMV 1250/SA4M-CE

Frequency range	3 to 2000 Hz
Max. amplitude of displacement	50 mm
Max. force	40 kN
Max. acceleration:	
- for sinusoidal vibrations	500 m/s ²
- for random vibrations [rms]	200 m/s ² RIMS
- for shocks	800 m/s ²
Sine on sine or sine on random mixed tests	
32 vibration recording channels	
Compatible with CLIMATS 1200 H 70/5 climatic test chamber and/or SC-35/25/29 clean-box For 3-axis vibration and shock testing	

Movable clean room is using for some of the test campaigns. Accreditation Certificate of Testing Laboratory No. AB132 [PN-EN ISO/IEC 17025:2005 standard].



The Lukaszewicz Research Network – Institute of Aviation

offers a wide range of specialized research, engineering services and products. We provide comprehensive solutions, ranging from dedicated analyzes, simulations, engineering design, through the selection, testing and certification of materials and structures, to rapid prototyping and additive manufacturing.

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