

Łukasiewicz
Institute of Aviation

ENVIRONMENTAL TESTING LABORATORY
of Łukasiewicz – Institute of Aviation

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ENVIRONMENTAL TESTING LABORATORY



The Laboratory is authorized by Polish Centre for Accreditation under certificate No. AB 132 since October 1997, in compliance with the requirements of standard PN-EN ISO/IEC 17025:2005.

The scope of this certificate covers tests of resistance to mechanical hazards, climate stresses and functional inspection of products.

Capabilities:

- **Random and sinusoidal vibrations;**
- **Repeated mechanical shocks;**
- **Combined vibration and temperature/humidity;**
- **Vibrations in clean atmosphere (using movable clean room);**
- **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;**
- **Corrosion resistance;**
- **Water (rain, spray, splash) resistance;**
- **Sunlight resistance.**

LABORATORY EQUIPMENT

Shaker IMV i250/SA4M-CE with Medallion II controller

Frequency range: 5 – 2500 Hz;

Max. Amplitude of displacement: 50 mm;

Max. force: 40 kN;

Max. acceleration:

- for sinusoidal vibrations - 500 m/s^2 ,
- for random vibrations (rms) - 140 m/s^2 ,
- for shocks - 800 m/s^2 ;

Additional equipment:

- slight table, dimensions: 750 x 750 mm,
- head-expander, dimensions: 700 x 700 mm,
- head-expander, diameter: 610 mm.



LABORATORY EQUIPMENT

Movable temperature/humidity Test chamber CLIMATS 1200 H 70/5 with Spirale 3 controller

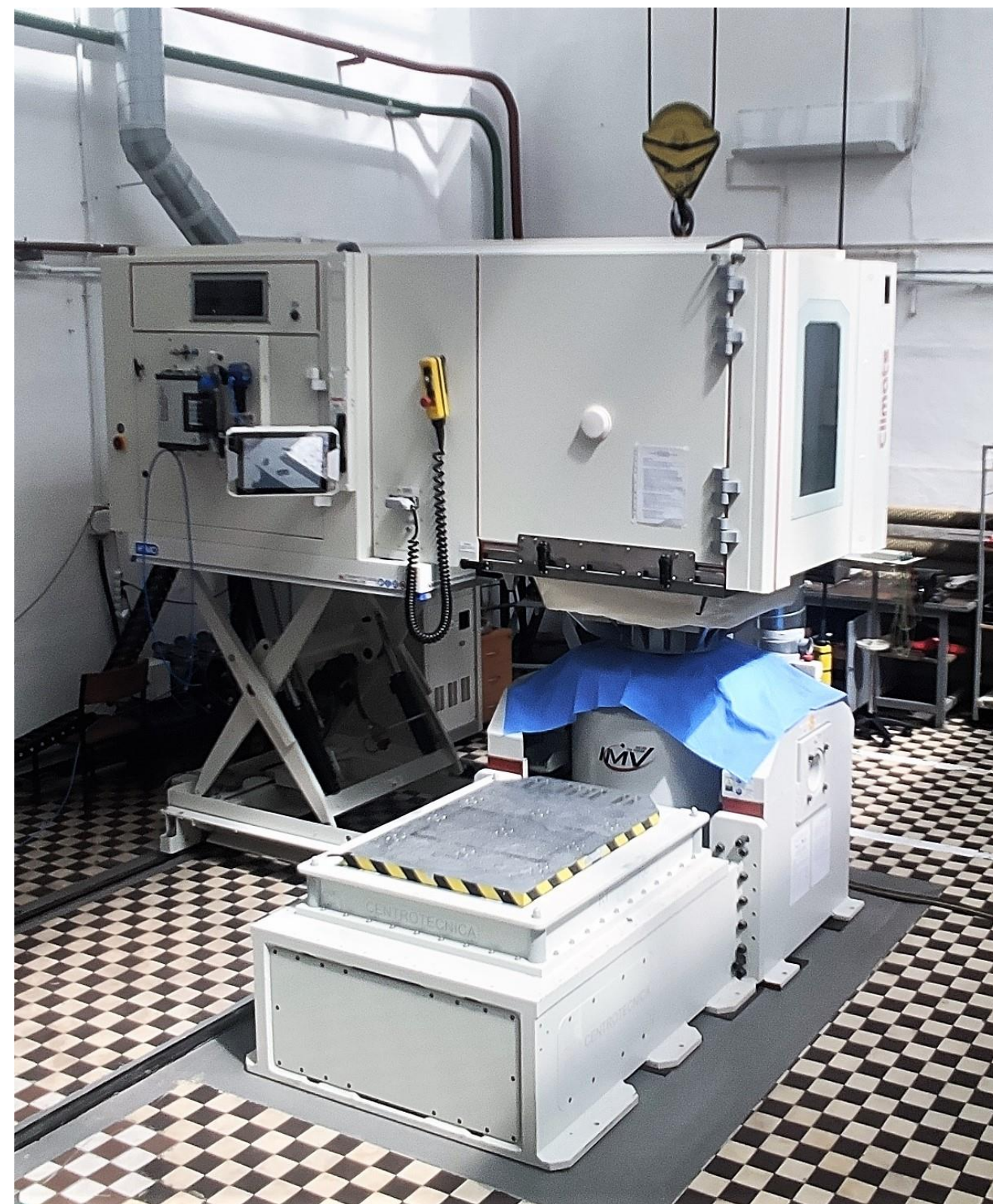
Dimensions of the test section:

1000 x 1100 x 1100 mm (1200 l);

Temperature range: -70°C ÷ +180°C;

Temperature variation rate: 5°C/min;

Humidity range: 20% ÷ 95%.



LABORATORY EQUIPMENT

Climatic chamber CLIMATS 4000 H 70/4G with Spirale 3 controller

Dimensions of the test section:

2000 x 1900 x 1060 mm (4000 l);

Temperature range: -70°C ÷ +180°C;

Humidity range: 20% ÷ 95%.



LABORATORY EQUIPMENT

Temperature/humidity test chamber CLIMATS Excal 7728-HE with Spirale 3 control system

Dimensions of the test section:

900 x 950 x 900 mm (770 l);

Temperature range: -90°C ÷ +200°C;

Temperature variation speed:

17°C/min within temperature range -55°C to +180°C

Humidity range: 20% ÷ 95%.



LABORATORY EQUIPMENT

Temperature/pressure test chamber CLIMATS 1000 FCV 70/1 with Spirale VS controller

Dimensions of the test section:

1000 x 1000 x 1000 mm (1000 l);

Temperature range: -70°C ÷ +180°C;

Pressure range:

- from atmospheric to 10 hPa – without temperature regulation;
- From atmospheric to 50 hPa – with temperature regulation;
- from atmospheric to 1070 hPa.



LABORATORY EQUIPMENT

SOFTWALL CLEANROOMS mobile and movable Model SC-35/25/29

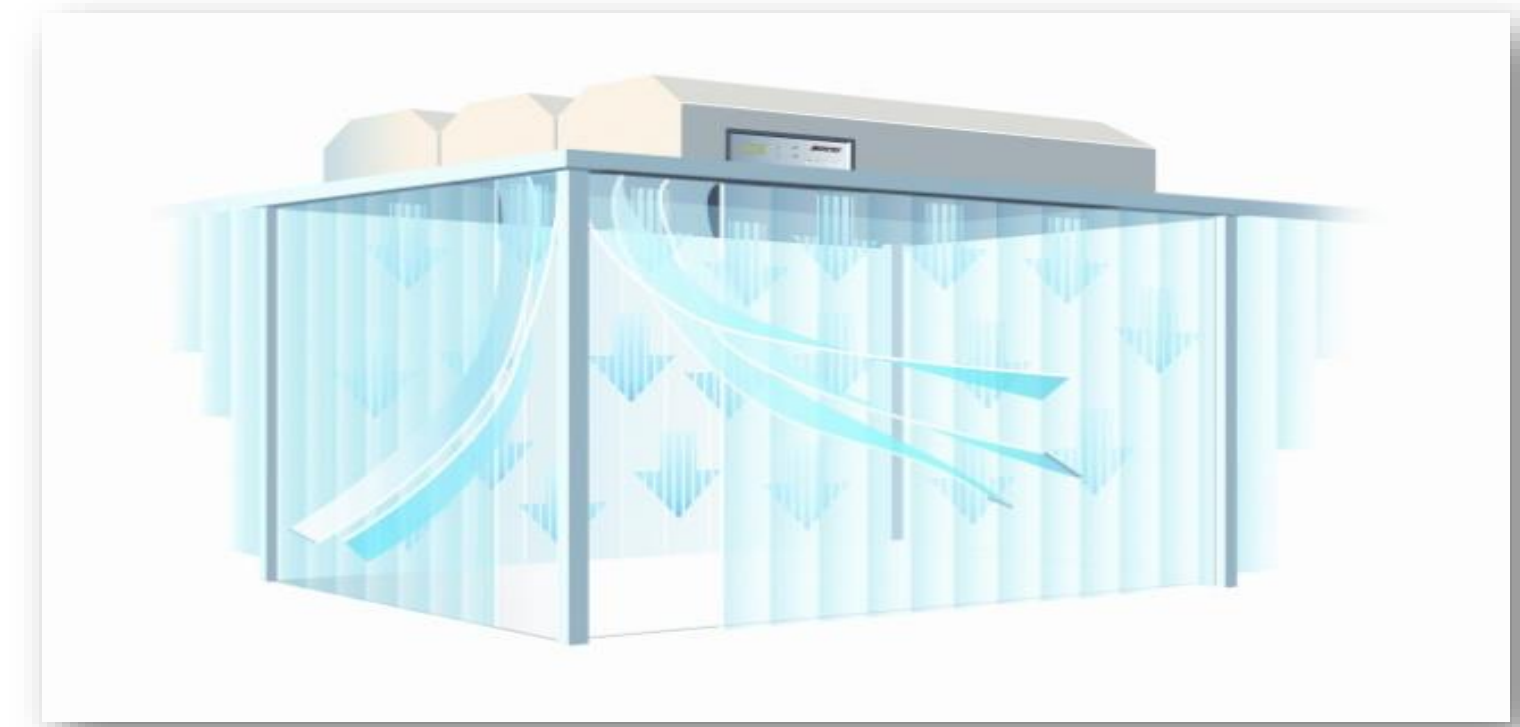
Dimensions: 3,5 x 3,0 x 2,6 m;

Curtains made from transparent and antistatic PCV strips;

HEPA Filter - ISO7;

Automatic flow speed: 0,45 m/s;

Available for use during vibration tests.



LABORATORY EQUIPMENT

Salt Spray Test Machine Model SF/CCT/VH with Eurotherm controller

Dimensions:

850 x 2000 x 1000 mm (1700 l)

Temperature range: up to +60°C;

Tests according to:

MIL STD-810E, ISO 6270-2, DIN 50.02, ASTM 13117;

Humidity range: 15% ÷ 95%.



LABORATORY EQUIPMENT

Spray and Splash Water Test chamber SWT 600/800 with Simpati controller

Dimensions:

1810 x 1800 x 1800 mm (5800 l);

Rotary table diameter: 600 mm;

Tests according to:

**IPX1, IPX2, IPX3, IPX4,
IPX5, IPX6 and IPX6K.**



LABORATORY EQUIPMENT

Sun simulation test chamber SunEvent SUN/1000 with Simpati controller

Dimensions:

1000 x 1000 x 1000 mm (1000 l);

Irradiation unit:

metal halid lamp: 2500 W;

light range: 280 – 3000 nm;

irradiation intensity: 400 – 1125 W/m².



LABORATORY EQUIPMENT

Dust Test chamber ST 2000U with Simpati controller

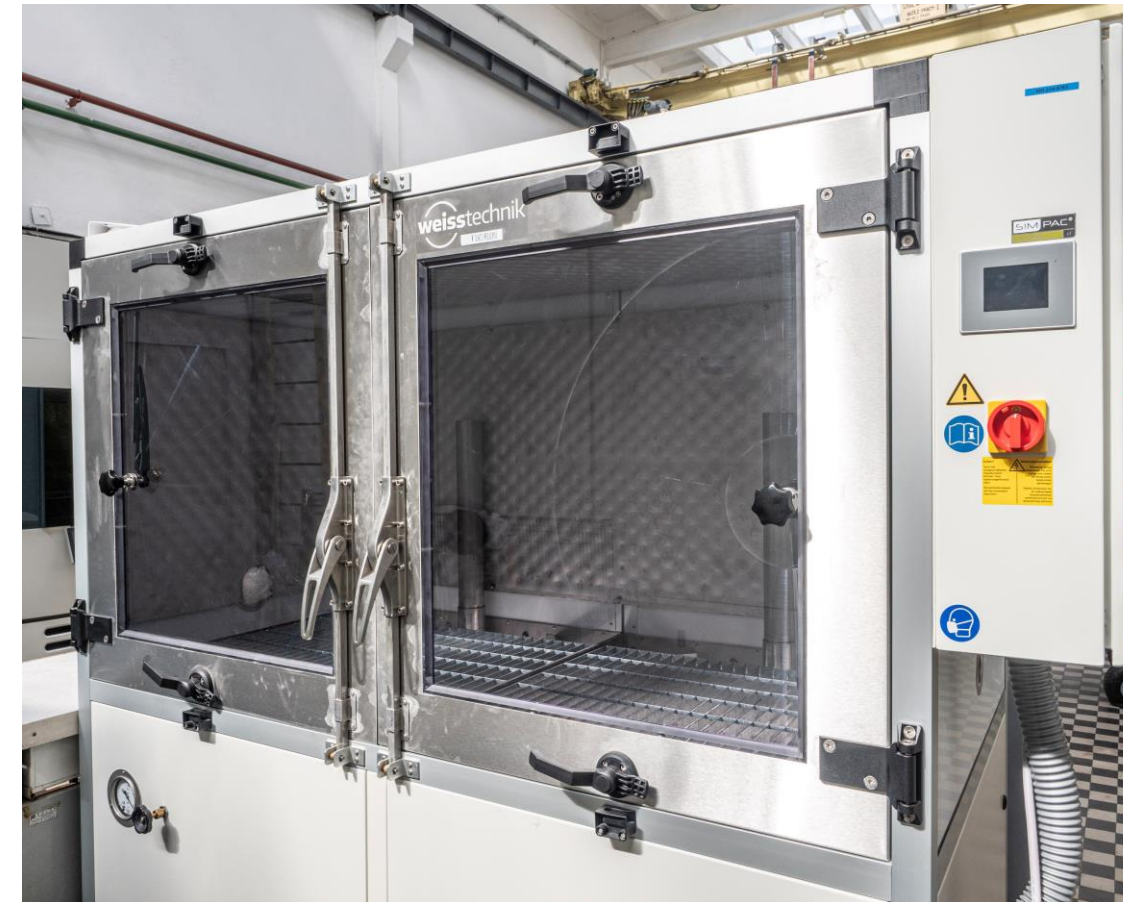
Dimensions:

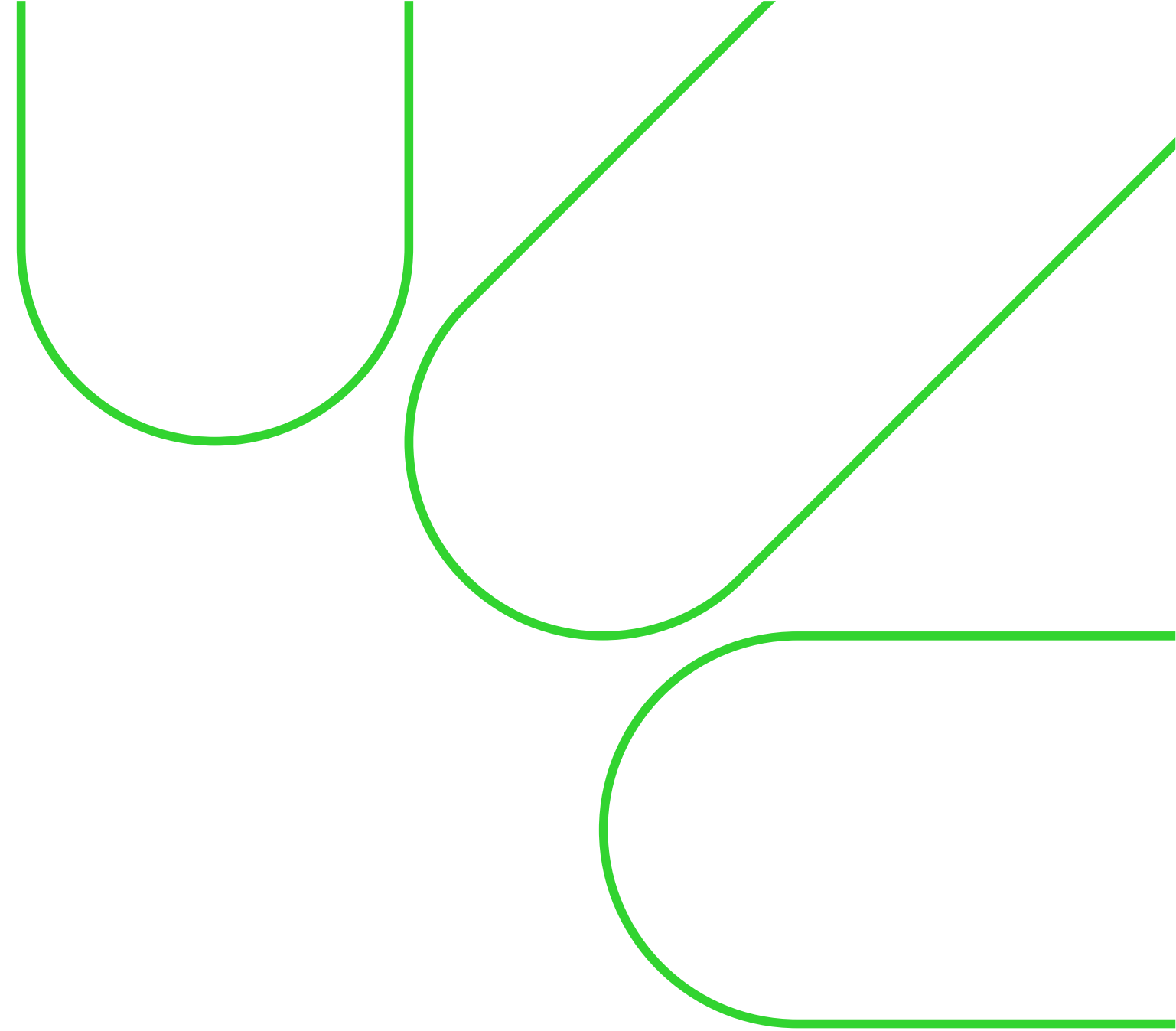
1000 x 1900 x 950 mm (1800 l);

Dust density: 5 kg of dry, fine grained talcum;

Testing possible in temperature of value up to 55°C.

Tests according to DIN EN 60529.





THANK YOU!





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