



ENVIRONMENTAL LABORATORY



AVIONICS DIVISION

Environmental Laboratory

The Laboratory acquired Testing Laboratory Certificate No. AB 132, issued by the Polish Center for Accreditation in February 2005, in compliance with PN-EN ISO/IEC 17025:2005 standard requirements. The scope of this certificate covers tests of resistance to mechanical hazards, climate stresses and functional inspection of products.

Capabilities:

- strength and resistance to sinusoidal vibrations for objects of a mass up to 400 kg, with a frequency range of 5 - 2500 Hz, acceleration amplitude up to 900 m/s², displacement amplitude up to 25 mm,
- broad band vibrations for objects of a mass up to 400 kg, with a frequency range of 5 - 2000 Hz, acceleration amplitude 0.3 - 240 m/s², spectral density from 0,004 to 45 (m/s²)² x Hz⁻¹,
- strength and resistance to repeated mechanical shocks for objects of a mass up to 400 kg, acceleration up to 3200 m/s², frequency up to 3 Hz, and on impulse duration range of 1 - 30 ms,
- resistance to high and low temperatures, in a temperature range of -80°C - +180°C,
- resistance to cyclic temperature changes within the range from -80°C to +180°C,
- resistance to a high level of humidity within the range from 20% to 98%,
- resistance to low pressure from atmospheric pressure to 60 hPa,
- frost and moisture resistance.

Head of Avionics Division
Mariusz Krawczyk, Ph. D. Eng.
phone: (+48) 22 188 38 15
fax: (+48) 22 846 01 71
e-mail: mariusz.krawczyk@ilot.edu.pl

Head of Environmental Laboratory
Józef Małuj, M.Sc.
phone: (+48) 22 846 00 11 ext. 257
e-mail: jozef.maluj@ilot.edu.pl

Laboratory Equipment

Climatic chamber Climats Excal 7728-HE:

- temperature range: -90°C to +200°C,
- temperature variation rate: 17°C/min (within the range: -55°C to +180°C),
- humidity range: 10% to 98%,
- dimensions of the test section: 900x950x900 mm (770 dm³).

Climatic chamber Weiss SB2/300/80:

- temperature range: -60°C to +180°C,
- humidity range: 10% to 98%,
- dimensions of the test section: 680x540x820 mm (300 dm³).

Temperature/pressure/humidity test chamber: BRABENDER TBSE 3000/70E:

- temperature range: -50°C to +100°C,
- pressure range: from atmospheric to 60 hPa,
- dimensions of the test section: 1900x1250x1500 mm (3500 l).

Shock vibrator TIRA-Shock 41 I 0:

- max. acceleration: 3200 m/s²,
- shock impulse duration range: 1 - 30 ms,
- shock frequency: up to 3 Hz,
- max. mass of tested object: 400 kg.

Vibrator Derritron VPI 80/6000WT (sinusoidal and random vibrations):

- max. acceleration: 200 m/s²,
- frequency range: 5 - 2500 Hz,
- max. mass of tested object: 40 kg.

Vibrator Ling Electronics D390 (sinusoidal vibrations):

- max. acceleration: 200 m/s²,
- frequency range: 5 - 2000 Hz,
- max. mass of tested object: 20 kg.

Vibrator IMV i250/SA4M-CE (sinusoidal and random vibrations and shocks):

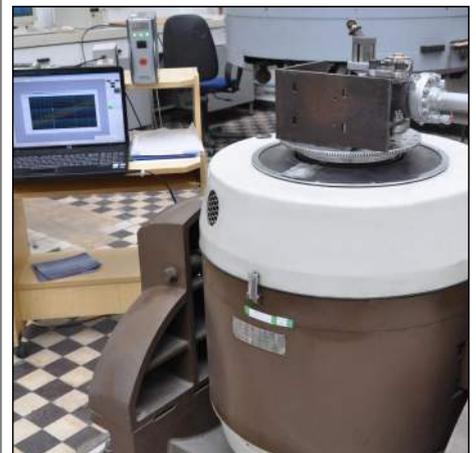
- frequency range: 5 - 2500 Hz,
- max. acceleration: 66 - 2500 Hz,
 - for sinusoidal vibrations - 900 m/s²,
 - for random vibrations (rms) - 640 m/s²,
 - for shocks - 1828 m/s²,
- max. mass of tested object: 400 kg, (max. acceleration for 400 kg - 100 m/s²),
- additional equipment:
 - slight table dimensions: 750 x 750 mm,
 - head-expander: diameter 610 mm.



Vibrator IMV i250/SA4M-CE



Temperature/pressure/humidity test chamber BRABENDER



Vibrator DERRITRON VP 180/600

Institute of Aviation
al. Krakowska 110/114
02-256 Warsaw
phone: (+48) 22 846 00 11
fax: (+48) 22 846 44 32
e-mail: ilot@ilot.edu.pl

www.ilot.edu.pl
www.facebook.com/instituteofaviation
www.twitter.com/AviationPoland

