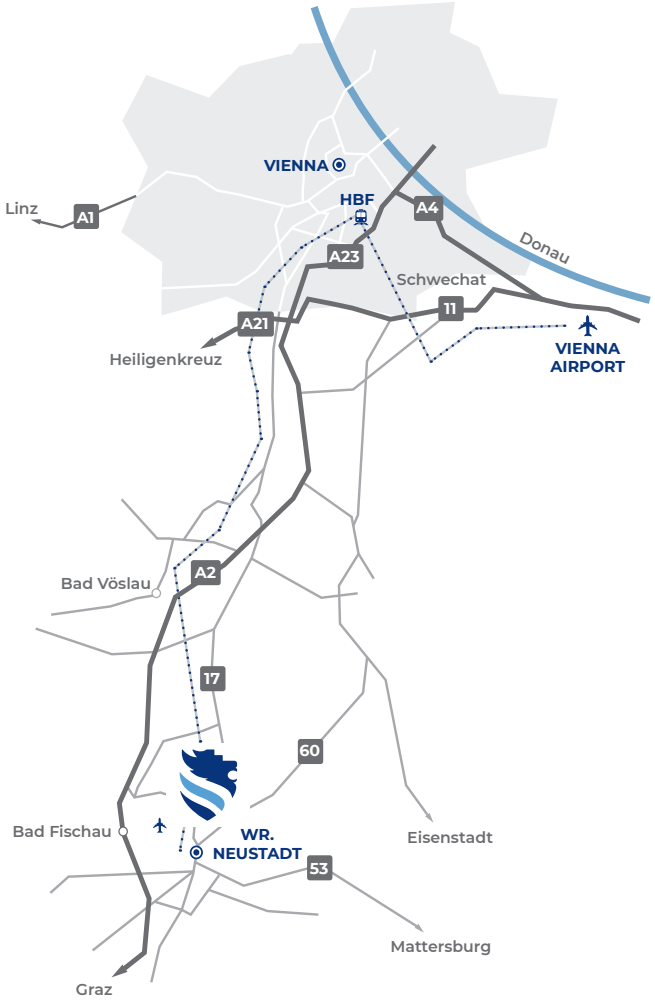
ABOUT FOTEC

FOTEC Forschungs- und Technologietransfer GmbH is the research and technology subsidiary of the University of Applied Sciences in Wiener Neustadt. The company was founded in 1998.

Our interdisciplinary team of experts carries out industrial and funded research and development projects. The execution of such projects is done in close cooperation with the University of Applied Sciences Wiener Neustadt, especially with the departments of Mechatronics, Microsystems Engineering, Business Engineering and Aerospace Engineering.

FOTEC serves orders from industry and also takes on technological and scientific challenges within the framework of national and international research and cooperation projects. These are enabled and supported by the national funding agency FFG, the European Space Agency ESA and the European Commission.



HOW TO REACH US

FOTEC resides in the city of Wiener Neustadt
in the direct vicinity of the University of Applied Sciences,
40 km south of Vienna.

CONTACT

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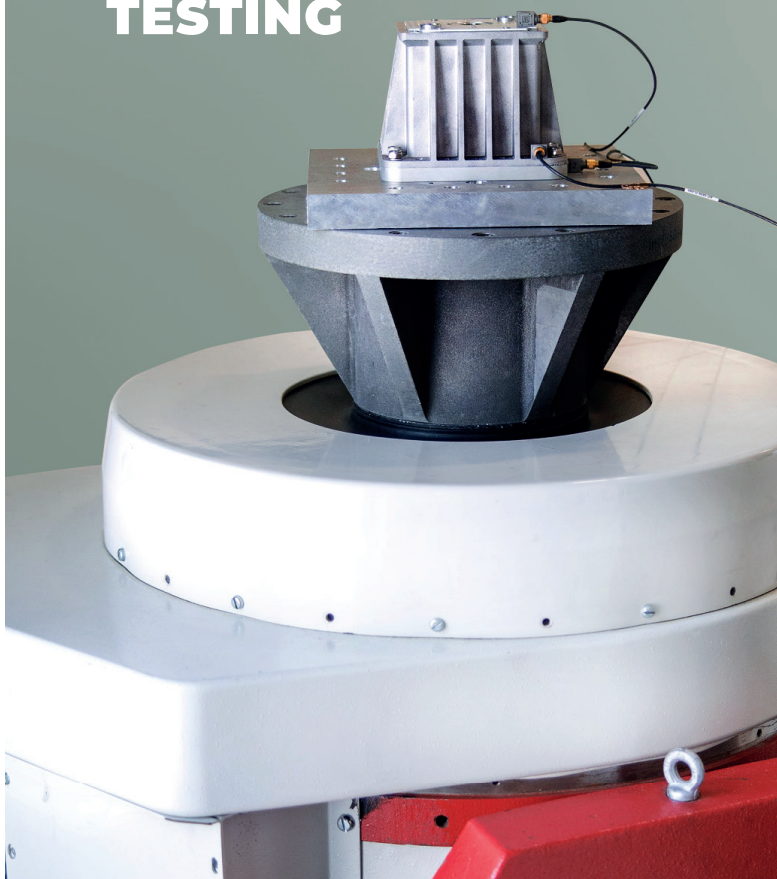
FOTEC

Research Subsidiary of
— FH Wiener Neustadt —

SHOCK AND VIBRATION TESTING



TEST SERVICES

FOTEC offers its customers extensive testing capabilities and supports them with many years of experience in the planning and execution of environmental tests related to space applications and other technical sectors. We provide acceptance and qualification tests of components, systems, instruments, and small spacecraft - such as CubeSats. This helps our customers to expose weaknesses during development, to evaluate products for ruggedness and to increase operational reliability. Results are gathered, verified, and interpreted in accordance with the acquired ECSS standard. This guarantees standardised and reproducible test campaigns.

All environmental test activities are accompanied by dedicated quality assurance measures. We are experienced on an international level and have proven our expertise in the frame of numerous national and international research projects.

FOTEC's test facilities allow the application of sinusoidal sweeps, random noise, and quasistatic loads along all three axes. For that purpose, the LDS V730-185T electromagnetic shaker system combined with the m+p VibControl data acquisition system is used.

SHOCK TABLE

FOTEC's shock table includes a ringing plate and a hammer that can be deflected and released. A variety of factors affects the achievable PSD waveform. The following adjustments are possible to configure the application of the impact energy:

- In-plane and out-of-plane setup
- Variable hammer mass
- Adjustable drop height
- Different hammer materials
- Different target materials

VIBRATION / SHOCK SENSORS & DAQ

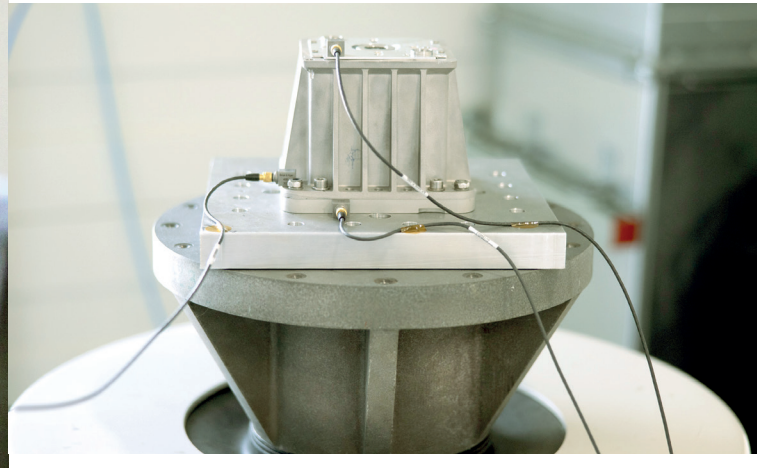
- 2x PCB Piezotronics 350D02 accelerometers up to 50000g
- 5x Brüel & Kjær piezo-electric triaxial accelerometers up to 714 g and 10 kHz
- m+p VibControl system with up to 16 channels

SHAKER FACILITY

The armature table of the shaker type V730 - 185T has a diameter of 185 mm and provides up to 13 M8 tapped holes for mounting the DUT. A mass-optimised head expander is available to enable larger DUTs to be tested.

To allow tests in lateral direction, the slip table type TGT MI 13 is used providing an area of 330 x 330 mm^2.

The power amplifier type DongLing SDA-10 provides the required power of 10 kVA to operate the shaker. Accelerations induced by the shaker are controlled and measured by Brüel & Kjær triaxial DeltaTron accelerometers type 4535-B.



PARAMETER	VALUE
Rated sinusoidal force	8,896 N
Rated random force	5,782 N
Usable frequency range	5 – 4,000 Hz
Maximum displacement amplitude	25.4 mm
Rated peak velocity	2.0 m/s
Maximum acceleration	120 g peak/75 g RMS
Maximum payload mass	160 kg
Fundamental armature resonance frequency	3,000 Hz

REFERENCES

- Beyond Gravity Austria GmbH (RUAG)
- Space-Lock GmbH
- SP United Vertrieb GmbH
- ENPULSION GmbH