



ENERGY INVESTIGATIONS & CALCULATIONS

This competence is in studying the flow conditions in industrial flow technology machines (pumps, turbines, compressors) and understanding the material and heat exchange processes in heat engineering machines and equipment (pipelines, heat exchangers, air conditioning systems, heat engines). In line with today's requirements, various energy developments are also being integrated into industrial processes, enabling more conscious and economical energy use.

COMPETENCIES

- Energy analysis and development of industrial systems, buildings, equipment
- Laboratory investigation of flow and thermal processes in household appliances
- Testing of internal combustion engines in an engine testing laboratory on a computer-controlled dynamometer



SERVICES

- Investigation of flow and heat phenomena (in different wind tunnels)
- Thermal engineering tests in a climate chamber
- Measurement and calculation of energy processes
- Testing and diagnostics of internal combustion engines



TOOLS

- Insulated wind tunnel, open wind tunnel with press system, closed/open wind tunnel
- Optical flow and thermal measurement techniques (LDV, PIV, Schlieren system)
- Hotwire flow measurement system (CTA, air and fluid flow calibrator)
- Angelantoni Test Technologies WZH38 + 1043 prefabricated large climate chamber
- Complete diesel engine testing laboratory with brake machine
- Brüel & Kjaer vibration tester, TESTO hand tools (pressure, temperature, speed tests)



REFERENCES

- Deutscher Akademischer Austauschdienst Projekt – Development of turbulence generators
- Robert Bosch Energy and Body Systems Ltd. – Investigation of current-induced vibrations
- ELECTROLUX Lehel Ltd. – Improving the energy efficiency of refrigeration furniture, increasing the efficiency of dust extraction networks
- Audi Hungaria Ltd. – 500-hour test to check engine wear and oil consumption
- DOMETIC Hűtőgépgyártó és Kereskedelmi Ltd. – Energy consumption measurement
- HAJDU Hajdúsági Ipari Ltd. – Development of hot water storage and air treatment equipment