



ACOUSTICS & HVAC LABORATORY



LABORATORY & FIELD MEASUREMENT

In standardized conditions, we study the flow of liquids and gases through components and systems, utilizing state-of-the-art precision measurement instruments in facilities such as environmental and model chambers, as well as wind tunnels.

Within our laboratory, we have reverberation test room and all necessary sound sources and measurement equipment for acoustic measurements. Our measurements are conducted in compliance with current standards, regulations, and directives.

The operations and key measurements of our laboratory are accredited by FINAS (identifier T276). Accredited activities include, among others, measurements of air volume flow rate, sound power level measurements using a reverberation test room method, noise level and sound insulation measurements, as well as comprehensive testing of plumbing fixtures.

HVAC &
Sound testing

Over 700 m²
laboratory
space

FINAS
T276
accredited



Examples of our laboratory services

FLUID DYNAMICS, THERMAL & ELECTRICAL MEASUREMENTS

- Air volume flow rate measurements (SFS-EN ISO 5167)
- Flow and acoustics measurements for supply and exhaust air units (SFS-EN 12238)
- Flow, electrical, and acoustic measurements for fans and ventilation equipment (ISO 5801)
- Aerodynamic testing of ventilation units
- Flow and thermal measurements for heat recovery, heating, and cooling radiators (SFS-EN 308)
- Testing of residential air handling units (SFS-EN 13141-7)
- Environmental and efficiency tests for heat recovery devices (SFS-EN 13141)
- Prototype manufacture, testing and analysis, product development

ACOUSTIC MEASUREMENTS

- Determining sound power levels in the reverberation test room or with the intensity method (ISO 3741, ISO 9614)
- Acoustic and fluid dynamic measurements of ventilation terminal units (ISO 5135)
- Sound attenuation measurements (ISO 7235)
- Building material sound absorption measurement and classification (ISO 354 and ISO 11654)
- Sound insulation measurements for building elements (ISO 15186)
- Water supply appliance noise emission measurements (ISO 3822)



Examples of our laboratory services

WATER SUPPLY APPLIANCE TESTING

- Water supply appliance noise emission measurements (ISO 3822)
- Physical testing of water supply appliances (SFS-EN 817 and SFS-EN 1111)
- Volume flow, flow velocity and pressure loss measurements

WASTEWATER NOISE MEASUREMENTS

A wastewater noise measurement system in our laboratory can be used to measure noise levels from wastewater installations at different water flow rates. Quantities according to EN 14366 can be defined for pipe materials as well as structure borne vibration and sound power levels. Measurements with various types of bracketing, casing and insulation are possible. We also can make precise wastewater noise calculations for noise modelling purposes.

BUILDING PHYSICS, HVAC & HPAC MEASUREMENTS

- Temperature and humidity measurements and follow-up
- Building element tightness measurements
- Building air impermeability measurements (n50 and q50 values, SFS-EN 13829)
- Thermal imaging
- Field measurements related to HVAC and plumbing, e.g. volume flow measurements





Plans, inspects and consults

We serve developers, builders, contractors, industrial firms, equipment manufacturers, consultants, authorities, and private sector as a high-quality design firm providing services impartially as a product development partner, accredited laboratory, and an expert.

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We are **SOLWERS**