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Environmental Systems for Automotive Test Applications

Weiss Umwelttechnik GmbH is one of the most important producers of standard test devices and special test systems for Environmental Simulation Technology worldwide.

Along with other Schunk Group companies like Vötsch Industrietechnik GmbH in Germany, WVC in China, Servathin, Secasi & Climats in France, Envirotronics in the USA, Weiss Gallenkamp & Design Environmental in the UK, it is one of the major companies in Europe.

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Climatic Walk-In Chamber with Sun Simulation



High Precision Walk-In Chamber

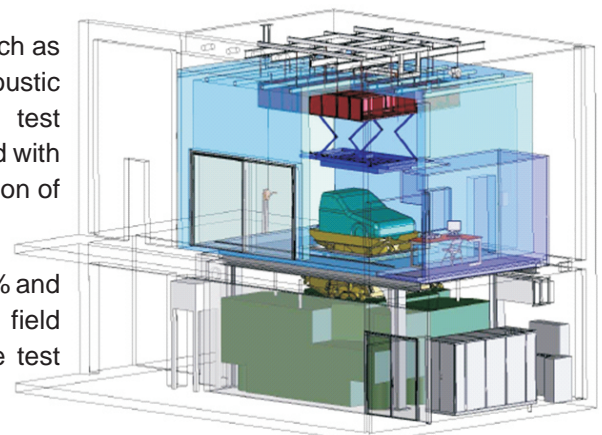
Walk-In Chamber for Test of vehicles in controlled Atmosphere with capability to simulate a temperature range of -50°C / $+71^{\circ}\text{C}$ and hygrometry of 10% to 95%. Unique features of Weiss Walk-in chamber are the possibility to reproduce a batch of climatic cycles and accelerated stability test for 24 hours without any interruption.

It consists of an internal conditioning unit and ceiling mounted sun simulation system and a control room for complete simulation of Temperature and climatic condition besides sun simulation in a large volume chamber with a high precision of $\pm 1^{\circ}\text{C}$.

Climatic Vibration and Acoustic Simulation Test Bench

This special climatic test chamber performs a combination of tests such as simulation of vibration, sunlight and climatic resistance test and acoustic measurements for automotive component as well as full vehicle test applications. Key features are climatic and acoustic chamber equipped with a sunlight ceiling, a conditioning unit and a vibration table for simulation of Hot-Cold-Humidity-Sun light.

It can achieve a temperature range of -40°C to $+90^{\circ}\text{C}$ with RH up to 95% and simultaneous simulation of sunlight using infrared and acoustic field generation at the range of 54.6 dB which can address most of the test requirements as per automotive standards.



Climatic-Vibration-Acoustic Simulation System

Vehicle Front Surface Characterization Test Bench:

This test bench is made up of an airflow circuit and conditioning circuit of fluids to test the automobile exchanger's radiator, RAS and condenser as well as piloting of the GMV. Thus making it possible to carry out tests of thermal and aeraulic performance on sub-assemblies related to driving cooling systems.



Front Panel Test chamber



Acoustic chamber for compressor

NVH Test Bench for Automotive Air Conditioning Compressor:

Noise Vibration and Harshness Test solutions integrated with a climatic simulation specifically for Automotive Air conditioning compressor unit, with a compressor support facility having line shaft and isolation to enable Acoustic Analysis. This chamber has unique features with a software interface for Calculation of Evaporator power, Overheating, Sub-cooling and Compression ratio along with the measurement of Torque and Speed of compressor.

Endurance Test Bench For Vehicle Air Conditioning system:

Endurance Test of new generation air conditioning systems (CO₂, Yf 1234, ...) with simulation of their final position in the vehicle and simulation of the vehicle use based on this condition. The system consists of one High flow Air generator (600 to 6000 m³/h) for simulation of the air at the front of the vehicle, Low flow air generator (100 to 800 m³/h) for simulation of the air in the cockpit along with the chamber with associated duct network which perform tests to obtain real time calculations of Power, efficiency coefficient, over Heating, sub-cooling and temperature ranges.



Vehicle Air Conditioning Test Chamber



Compressor Endurance Test Chamber

Endurance Test Bench for Automotive Compressors:

Test bench for automobile compressors with its complete functional circuit including evaporator and condenser. This application involves an Environmental chamber, hot & cold chamber for the compressor under test, Condenser and evaporator each. A refrigeration machinery compartment with an electrical cabinet incorporating computerized control.

Power Station for conditioning Cold Heat Humidity :

The treatment of air makes it possible to carry out conditioning in temperature and humidity of the combustive air of the engine. In order to achieve these conditions, installation of a power station is required to conditioning and treatment of air. This conditioner makes it possible to control a temperature ranging between +15°C and +30° C and a humidity ranging between 30% and 50%.



Hot Cold Humidity Generator

➡ For further product & application details please contact:

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