dr. wernecke
Feuchtemesstechnik

# COMPANY PROFIL

## About us

## Our activities

- ⇨ Production of devices for the determination of humidity and temperature in gases
- ⇨ Design and production of application-specific Hardware and Software for the determination of humidity in gases and bulks
- ⇨ Humidity calibration in accordance to DAkkS and ISO Standards
- ⇨ Production of mixed gases and laboratory gases generators
- ⇨ Planning and realization of atmospheric simulation installations

## Historie

- ⇨ 1997 Foundation
- ⇨ 2001 Production of Trace Moisture Analyzers
- ⇨ 2009 Accreditation as calibration laboratory Humidity, Water Activity and Temperature

## Know-how

- ⇨ Specialist book ‚Industrial Humidity Measurement' by Dr. Roland Wernecke
- ⇨ Numerous professional articles and publications
- ⇨ Common seminars with VDI
- ⇨ Cooperation in standards and guidelines committees
- ⇨ Wide experimental technical basis due to cooperation with DLR and BAM

## PRODUCTS

- ⇨ Trace Moisture Analyzer
- ⇨ Labgas-Humidity Generator
- ⇨ Mixed Gas Generators
- ⇨ Atmospheric simulation installation
- ⇨ Monitoring-Systems for humidity, dewpoint and temperature

Trace Moisture Analyzer

## ENGINEERING

- ⇨ Determination of material moisture through sorption isotherms
- ⇨ Design of customized Hard- and Software

## KALIBRATION

- ⇨ DAkkS for humidity, water activity and temperature
- ⇨ ISO for humidity, temperature, flow and pressure

ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-K-19202-01-00

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# PRODUCTS

## TRACE MOISTURE

- ⇨ Measuring principle: Phosphorus pentoxide
- ⇨ Measuring range: (-100…+20)°CTd
- ⇨ Gas temperature: (5…65)°C

**Characteristics:**

- ⇨ Automatically sensor calibration
- ⇨ measurement in aggressive environment (Chlorine)
- ⇨ Unlimited Sensor lifetime
- ⇨ Easy regeneration
- ⇨ Stationary and mobile models

Trace Moisture analyzer stationary

Mischgasgenerator

## GAS MIXING SYSTEMS

Variables are:

- ⇨ Dry gas
- ⇨ Moist gas
- ⇨ Ozone
- ⇨ Humidity
- ⇨ Oxygen
- ⇨ Nitrogen
- ⇨ Carbon dioxide
- ⇨ Temperaturer
- ⇨ Pressure

## MONITORING SYSTEMS

- ⇨ Humidity: (0...100)% r.F. ±2%r.F.
- ⇨ Temperature: (-40…120)°C ±0,5 K
- ⇨ Sensor diameter: 6..8mm
- ⇨ Dewpoint calculation and recording
- ⇨ Heating function
- ⇨ Up to 12 probes

Multi-Converter

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# CALIBRATION

## DAkkS (DKD) Calibration Laboratory for

- ⇨ Humidity
- ⇨ Temperature
- ⇨ Water Activity

## ISO-Certificates for measurands

- ⇨ Humidity
- ⇨ Temperature
- ⇨ Flow

Calibration laboratory

## We calibrate the following devices:

- ⇨ Industrial transmitters for humidity and temperature
- ⇨ Handheld instruments for humidity and temperature
- ⇨ Measuring devices for water activity
- ⇨ Temperature Measuring Instruments
- ⇨ Pressure Measuring instruments
- ⇨ Flow Meter

Humidity Generator

## DAkkS Calibration Range

- ⇨ Humidity (10…95) % r.F.
- ⇨ Temperature (30…155) °C

## ISO Calibration Range

- ⇨ Humidity (5…95) %r.F.
- ⇨ Temperature (-40…250) °C
- ⇨ Pressure (0…20) bar
- ⇨ Flow (0…20) m/s

Temperature generator

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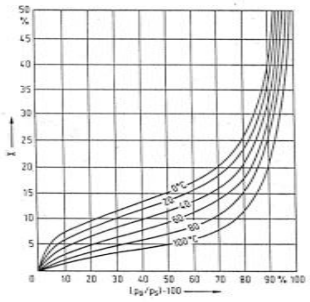
# ENGINEERING

## ENGINEERING-SERVICES

- ⇨ Creation of sorption isotherms
- ⇨ Determination of material moisture in running process
- ⇨ Mapping / Monitoring
- ⇨ Turnkey installations for atmospheric simulation



Sorptionsisotherme

## REFERENCE-INSTALLATIONS

### BOKU University Wien,
### Atmospheric Simulation Installation for ground surface

Main Components:
- ⇨ Temperature cabinet
- ⇨ Experimental chamber
- ⇨ Gas Installation
- ⇨ Gas Mixing System GMS
- ⇨ Dryer / Humidifier
- ⇨ Ozone Generator
- ⇨ Control Unit
- ⇨ Sensors for experiments
- ⇨ software for programming and reading acquisition

Atmospheric Simulation Installation

### DLR Berlin
### Atmospheric Simulation Installation for Mars surface

Measurants are:
- ⇨ Relative Humidity
- ⇨ Water Activity
- ⇨ Bulk Moisture
- ⇨ Ground Moisture
- ⇨ Pressure
- ⇨ Temperature
- ⇨ Photosynthetic Acticity
- ⇨ Flow of Gasen
- ⇨ Illuminance, Voltage

Installation for Atmospheric Simulation

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