

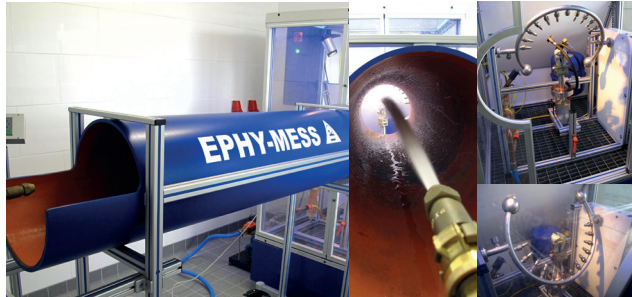
## Water protection test

### IP X3 test, „Protected against spray“

Protection against ingress of spraying water  
Water spray, falling at an angle up to 60° from the vertical shall have no harmful effects.

### IP X4 test, „Protected against splashing“

Protection against ingress of splashing water  
Water splashing from any direction against the housing shall have no harmful effects.



### IP X5 test, „Protected against water jets“

Protection against ingress of water jets (12,5 l/min.).  
Water, which is pointed from any direction in jets at the enclosure shall have no harmful effects.

### IP X6 test, „Protected against powerful water jets“

Protection against ingress of water jets (100 l/min.).  
Water, which is pointed from any direction in powerful jets at the enclosure shall have no harmful effects.

## ESD test

According IEC 61000-4-2 (contact discharge)  
Severity level 1-4 acc. HMB (Human Body Modell)  
Tests up to 25 kV following IEC/HMB

For further detailed information please visit our website  
[www.ephymess.de/en/company/quality](http://www.ephymess.de/en/company/quality)

## Our expertise for your product

EPHYMESS GmbH is a competent solution partner of all manufacturers of electrical machines and drives. We consult, develop and produce for our customers individual sensor solutions for safety and control requirements. Our focus is on the following market segments: rail technology, renewable energy and the general industrial segment.

Since 1955 the mid-sized and family-owned company, located in Wiesbaden, manufactures high-quality sensor solutions for monitoring electric drives and machines. Our sensors are used by customers of the following sectors: industry and plant engineering, heavy equipment construction, traffic engineering, wind power stations, refrigeration engineering, air-conditioning technology as well as in the measurement and control technology or in laboratory and research facilities. The product portfolio contains platinum and nickel measuring resistors, thermocouples, PTC / NTC thermistors, KTY sensors, bimetallic switches electric band heaters as well as speed sensors and oil level gauges for use in rolling stock.

Intensive research and development as well as a highly developed quality management ensure our high product standards. EPHYMESS has numerous utility models and patents, IECEx and ATEX certifications, certifications acc. DIN EN ISO 9001, DIN EN ISO 14001 and ISO/TS 22163 (IRIS), TR certificates, Metrological Certificates and 1st Calibration as well as certifications according to UL/CSA (NEC500 / 505) CCC and INMETRO.

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# EPHYMESS

Bespoke sensor technology. Worldwide.

## Test options

under or in accordance with  
relevant regulations and standards



- Temperature
- Electricity
- Mechanics
- Water



## Climate test

<b>Test range:</b>	Testing room volume	335 liter
	Temperature test	-70°C to +180°C
	Climate test temp. area	+10°C to +95°C
	Dew point area	+ 3°C to +94°C
	Humid area	10% to 98% r.h.
	Rate of change	
	Cooling	6.7 K/min
	Heating	6.8 K/min



Test bed for the generation of environmental influences, such as temperature and humidity, under laboratory conditions.

## Cooling / heating thermostat

<b>Test range:</b>	-70°C to +180°C
Test bench for the generation of environmental influences, such as temperature and humidity, under laboratory conditions.	

## Temperature blockcalibrator

<b>Test range:</b>	+35°C to +550°C
The performance characteristics of the test object in the gaseous medium (air) can be determined under given temperatures with the help of a high-precision temperature source.	

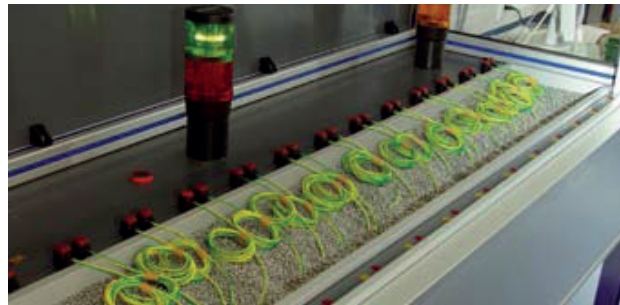
## Vacuum drying oven

<b>Test range:</b>	+25°C to +200°C
Test bench for the generation of environmental influences, such as temperature and humidity, under laboratory conditions.	

## High-voltage acceptance test

<b>Test range:</b>	500 V to 5000 V / AC 50Hz
destructive and nondestructive testing.	

High-voltage test to determine the performance characteristics for clearances, creepage distances and solid insulation of equipment for high voltage testing up to 10 kV.



## Partial discharge test

<b>Test range:</b>	0 V to 20000 V AC
Frequency range	0.3 to 2.5 Mhz
Spectrum	15 kHz
Measuring range	2.5 to 25000 pC
PD inception voltage	different measured values
PD extinction voltage	according to material

Partial discharge test to determine the performance characteristics for clearances, creepage distances and solid insulation of electrical equipment in high voltage tests more than 5 kV.

## Riso test

<b>Test range:</b>	0 V to 5000 V DC
The instrument applies the DC voltage to the testobject (Material or equipment or installation), measures the circular current and calculates the corresponding insulation resistance.	

## Vibration characteristics

<b>Test range:</b>	Max. speed	1.06 m/s
	Max. acceleration	672 m/s <sup>2</sup>
	Frequency range	5 to 6300 Hz
	Sinus force vektor	670 N max.
	Weight of the test sample	2.5 kg
	sine, shock, random, sine-on-random	

with electrodynamic vibration test systems will be tested how components / assemblies react on vibrational excitations in



operation or during transport. The test results are presented and documented in a power diagram.

## Tensile test

<b>Test range:</b>	1 N to 1000 N
for presentation and proof of the required tensile stress as to material or equipment or installation. The achieved results of the measurement data collection are documented by characteristic line and summary table.	

## Pressure test

<b>Test gange:</b>	0.5 to 11 bar (gaseous), 0.5 bar to 40 bar (liquid)
The test is carried out in a pressure chamber under laboratory conditions in a gaseous or liquid medium.	

## Microscope examination [\(table microscope classic\)](#)

<b>Test range:</b>	40 times magnification
Stereomicroscopic laboratory examination for quality-related product testing. The results of the investigation will be documented by photo and test report.	