



—  
your partner  
in sensor  
technology.



# Datasheet Humor 20

High Precision Humidity Calibrator



# Humor 20

## High Precision Humidity Calibrator

The Humor 20 is a highly accurate, easy to use humidity calibrator and represents the ideal reference for calibration laboratories or for manufacturers of humidity sensors.

### Primary Standard with Outstanding Performance

The calibrator operates as a dual pressure humidity generator, whereby the generated humidity reference depends only on the pressure. Since the pressure is a fundamental physical quantity, the Humor 20 represents a primary humidity standard. Due to the dual pressure principle, the calibrator features exceptional accuracy and stability as well as very short stabilization time. For details on the operation principle, please refer to the user manual.

### Versatile

As a dual pressure humidity generator, the Humor 20 is independent of the ambient temperature, does not require climatized environment and is suitable for portable measurement. With a wide choice of covers, the Humor 20 accommodates up to four humidity sensors, transmitters, probes or a handheld instrument.

### Easy to Use

For operation, the Humor 20 requires only distilled water, filtered oil-free air with a pressure of 10 bar and 100 - 230 V AC power supply. It offers supply for four humidity measurement devices and reads their voltage or current outputs.

### Automatic Calibration

Together with the optional Automatic Calibration Module, the Humor 20 autonomously performs entire calibration cycles. The PC software included in the scope of supply facilitates the individual setup of the automatic calibration cycle and issues the calibration certificates. Additionally, it offers various adjustment possibilities for the Humor 20.

### Traceable to International Standards

With the optional accredited calibration certificate, the Humor 20 becomes the humidity reference of choice for accredited calibration laboratories.



Humor 20



Automatic calibration Module (optionally available)

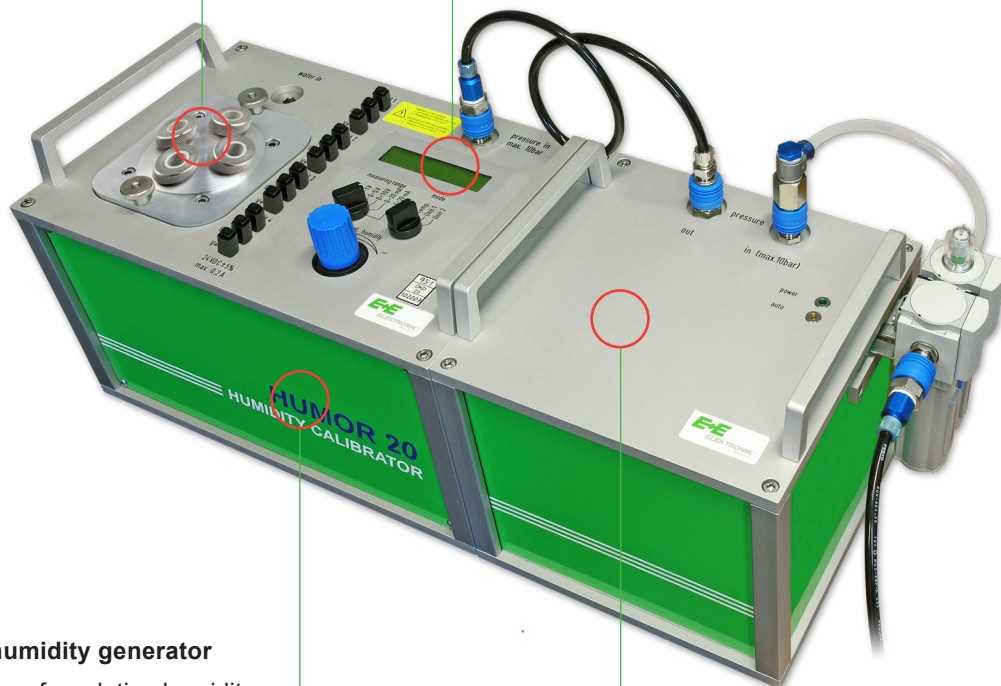
# Features

## Calibration

- Up to 4 RH probes simultaneously
- Very short stabilization time
- Suitable for on-site calibration

## User interface

- Switchable measuring inputs
- Display with backlight
- R232 interface to PC
- Easy handling



## Dual pressure humidity generator

- Primary reference for relative humidity
- Excellent accuracy and stability
- Independent of the ambient temperature

## Automatic Calibration Module (Optional)

- Automatic calibration cycle
- Various adjustment possibilities

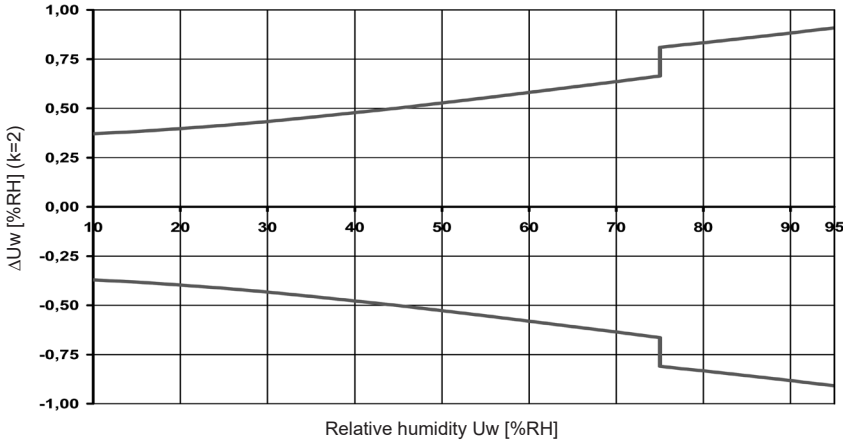
## Inspection certificate

According to DIN EN 10204-3.1

# Technical Data

## Calibration Performance

### Relative Humidity (RH)

Operating principle	Dual pressure humidity generator
Working range	10...95 %RH
Accuracy of the generated relative humidity <sup>1)2)</sup>	
Stabilisation time	<3 min/measuring point

1) The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2-times standard deviation).  
2) Valid for metal covers for the measuring chambers.

### Temperature (T)

Accuracy temperature measurement in measuring chamber <sup>1)</sup> , typ.	±0.3 °C (±0.54 °F)
--	--------------------

1) Valid for metal covers for the measuring chambers.

### Inputs

Number of measuring inputs	4 (switchable ... 4 - 20 mA / 0 - 20 mA / 0 - 1 V / 0 - 5 V / 0 - 10 V)
Accuracy of the inputs, typ.	<div>Voltage&lt;5 mV</div> <div>Current&lt;30 µA</div>


## Size and Shape of the Specimens

### Measuring Chamber


Cylinder	Ø8...25.5 mm (0.3...1")
Compact, max.	100 x 85 x 40 mm (3.9 x 3.3 x 1.6") or 95 x 95 x 40 mm (3.9 x 3.9 x 1.6")

# Technical Data

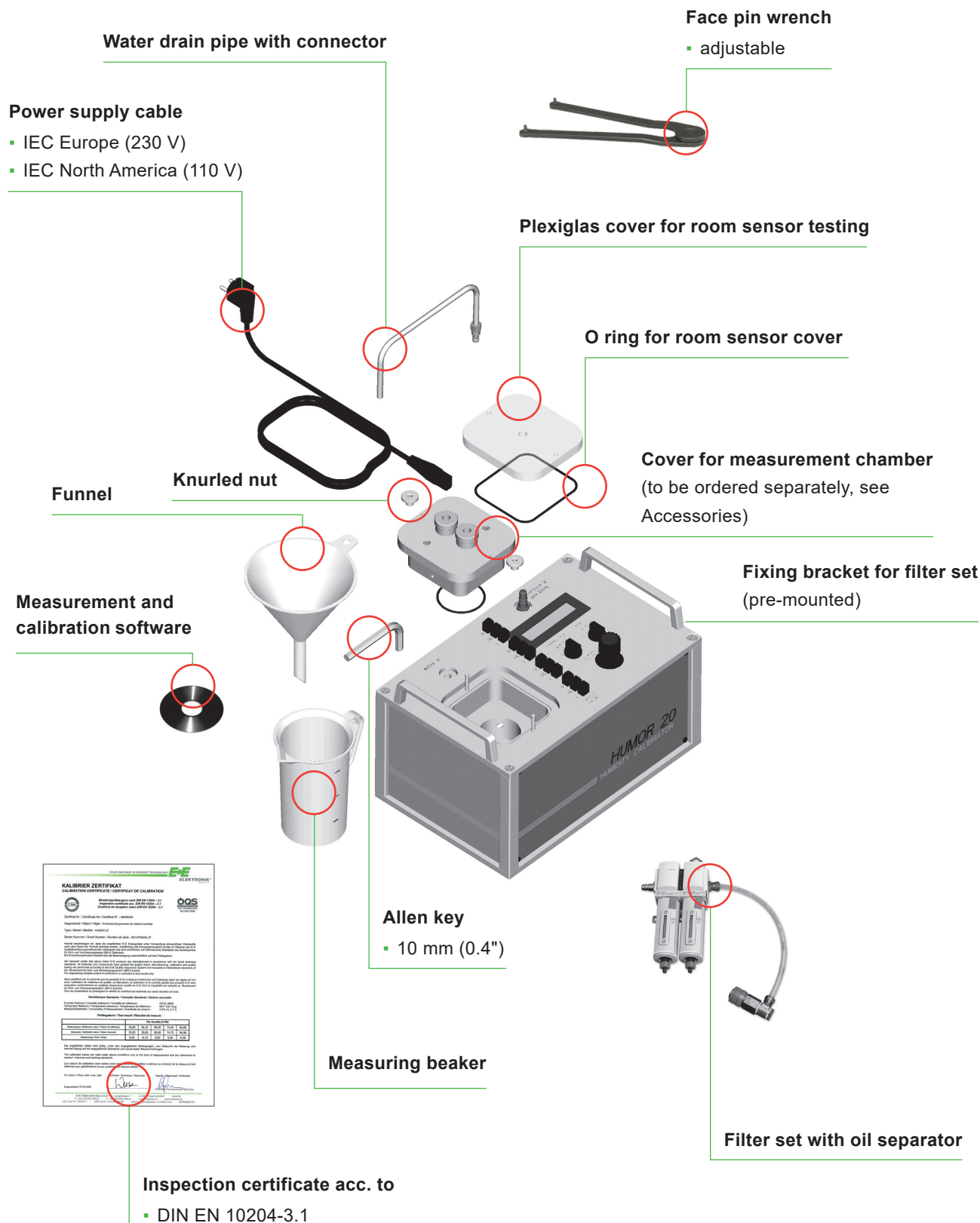
## General

Power supply	100 - 230 V AC, 50/60 Hz, max. 20 W
Integrated power supply for specimen	24 V DC, max. 200 mA
Protection class	I
Protection rating	IP40
Surge voltage category	II
Pollutional index	2
Display	Dot-matrix display with backlight
Interface for PC connection	RS232 (COM port)
System requirements for software tools	MS Windows 7 and newer versions
Environmental conditions	<div> <div>Temperature</div> <div>Humidity</div> <div>Installation altitude</div> <div>Application</div> </div> <div> 10...40 °C (50...104 °F)  10...80 % RH  Up to 2000 m above sea level  Indoors </div>
Electromagnetic compatibility	<div> EN 61000-6-3:2007/A1:2011 EN 61326-1:2013 </div> <div> EN 61000-6-2:2005 EN 61010-1:2010 </div>
Additional standards	<div> EN 60068-2-6 EN 60068-2-29 </div>
Conformity	
Dimensions	L x W x H
	400 x 260 x 240 mm (15.7 x 10.2 x 9.4")
Weight, approx.	
	Humor 20
	Humor 20 incl. aluminium transport case
	23 kg (51 lbs) 36.5 kg (80.5 lbs)

## Accessory - Automatic Calibration Module

Compressed air supply	<div> <div>Min.</div> <div>Max.</div> <div>Max. particle size</div> </div> <div> 9.8 bar (142 psi)  12 bar (174 psi)  5 µm </div>
Filtered oil-free compressed air	
Power supply	100 - 230 V AC, 50/60 Hz, max. 15 W
Protection class	I
Protection rating	IP40
Surge voltage category	II
Pollutional index	2
Environmental conditions	<div> <div>Temperature</div> <div>Humidity</div> <div>Installation altitude</div> <div>Application</div> </div> <div> 10...40 °C (50...104 °F)  10...80 % RH  Up to 2000 m above sea level  Indoors </div>
Electromagnetic compatibility	<div> EN 61000-6-3:2007/A1:2011 EN 61326-1:2013 </div> <div> EN 61000-6-2:2005 EN 61010-1:2010 </div>
Additional standards	<div> EN 60068-2-6 EN 60068-2-29 </div>
Conformity	
Dimensions	L x W x H
	260 x 260 x 240 mm (10.2 x 10.2 x 9.4")
Weight	
	Device
	Device incl. aluminium transport case
	9 kg (20 lbs) 23 kg (51 lbs)

# Scope of Supply



# Ordering Guide

Feature	Description	Code
		<b>Humor20-</b>
Model	RH + T	<b>M1</b>

## Accessories

For further information see datasheet [Accessories](#).

### Humidity Calibrator - Automatic Calibration Module

Description	Code
Automatic Calibration Module	<b>HA020301</b>

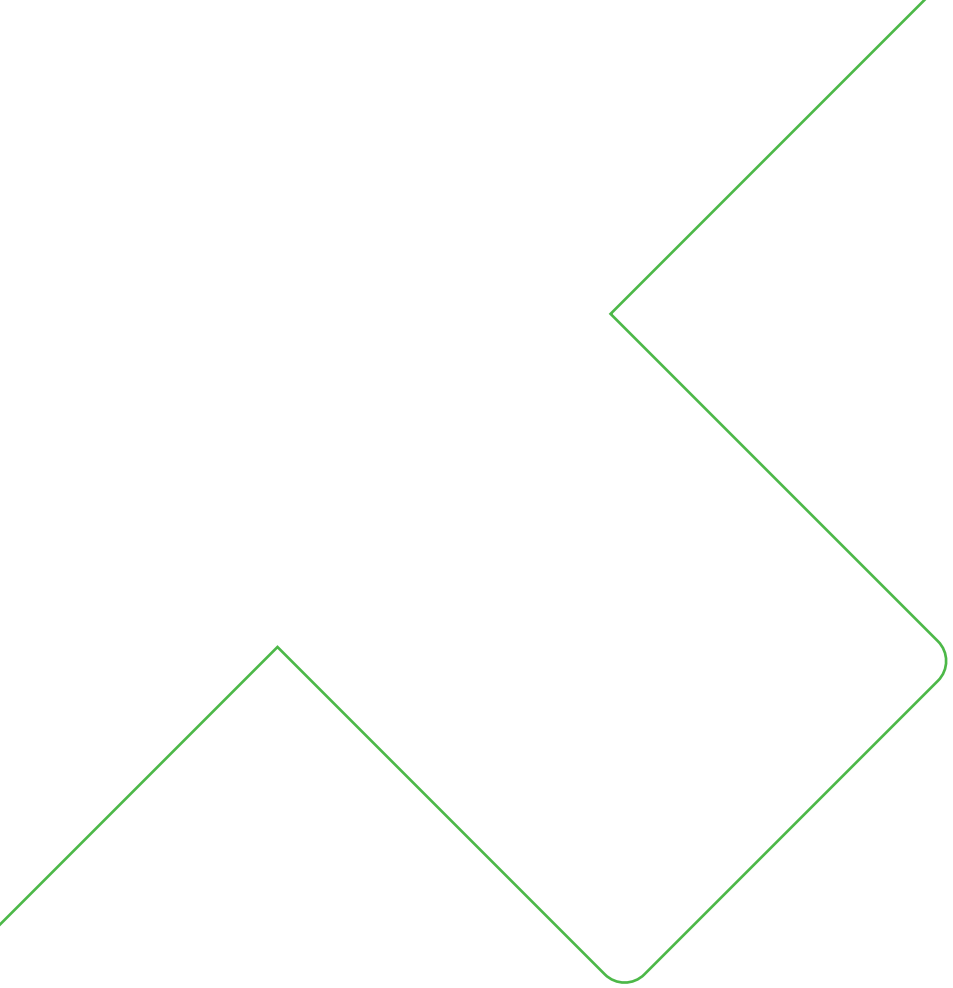
### Cover for Measurement Chamber

Description	Code
Humor cover 2x Ø12...16 mm (0.5...0.6")	<b>HA020201</b>
Humor cover 1x Ø16...20.5 mm (0.6...0.8")	<b>HA020202</b>
Humor cover 1x Ø20.5...25.5 mm (0.8...1")	<b>HA020203</b>
Humor cover 3x Ø8...12 mm (0.3...0.5")	<b>HA020204</b>
Humor cover 4x Ø12...13 mm (0.5...0.52")	<b>HA020205</b>
Humor cover 4x Ø12...16 mm (0.5...0.6")	<b>HA020207</b>
Humor cover 4x Ø16...20.5 mm (0.6...0.8")	<b>HA020208</b>
Humor cover 1x Ø30 mm (1.2")	<b>HA020209</b>
Humor cover 1x Ø9.5...12.7 mm (3/8...1/2") ISO	<b>HA020213</b>
Humor cover 2x Ø12.7 mm (1/2") ISO	<b>HA020214</b>
Humor cover 2x Ø12.7 mm (1/2") NPT	<b>HA020215</b>
Adapter for EE33 - model T17 <sup>1)</sup>	<b>HA020401</b>

1) Useable in combination with HA020204 or HA020201 only.

### Miscellaneous

Description	Code
USB/RS232 converter	<b>HA020110</b>
Face pin wrench adjustable	<b>HA020402</b>
Accredited calibration certificate with multiple humidity calibration points please contact your E+E sales representative	<b>OEKD-AGxx</b>



Company Headquarters &  
Production Site

**E+E Elektronik Ges.m.b.H.**  
Langwiesen 7  
4209 Engerwitzdorf | Austria  
T +43 7235 605-0  
F +43 7235 605-8  
info@epluse.com  
www.epluse.com

Subsidiaries

**E+E Sensor Technology (Shanghai) Co., Ltd.**  
T +86 21 6117 6129  
info@epluse.cn

**E+E Elektronik France SARL**  
T +33 4 74 72 35 82  
info.fr@epluse.com

**E+E Elektronik Deutschland GmbH**  
T +49 6171 69411-0  
info.de@epluse.com

**E+E Elektronik India Private Limited**  
T +91 990 440 5400  
info.in@epluse.com

**E+E Elektronik Italia S.r.l.**  
T +39 02 2707 86 36  
info.it@epluse.com

**E+E Elektronik Korea Ltd.**  
T +82 31 732 6050  
info.kr@epluse.com

**E+E Elektronik Corporation**  
T +1 847 490 0520  
info.us@epluse.com



—  
your partner  
in sensor  
technology.