

# AQUATEC® 1000

## Water Vapour and Oxygen Measuring System for Drying Plants

For a Fast and Reliable Optimisation of Drying Processes of every Description



Drying processes are energy-intensive production processes. It doesn't matter if it concerns the drying of gypsum or tobacco leaves etc. - a fast and reliable measurement of the drying process makes it possible to optimise the length of the drying process and minimise the energy consumption.

The AQUATEC® 1000 analyzer system due to its InSitu measuring method and fast speed of response, outclasses all extractive measurement systems. And the reliability of  $ZrO_2$  measuring technology is well proven by tens of thousands of applications in flue and process gases.

# ENOTEC



**The Measuring Principle** of the AQUATEC® 1000 water vapour measuring system is based on the TÜV approved OXITEC® 5000 oxygen measuring system. The AQUATEC® 1000 InSitu analyzer system measures the actual oxygen content in the process gas of drying processes. Since the water vapour concentration is always proportional

to the volume of displaced oxygen, the water vapour concentration can be calculated by means of the oxygen reference value. If the drying gas is not air (20,95Vol.% O<sub>2</sub>), the oxygen content must be measured before the drying process starts. This additional measurement can also be effected using the present AQUATEC® 1000 analyzer system.

## Technical Data:

### Measuring

Measuring principle: ZrO<sub>2</sub> measuring cell  
 Measuring ranges O<sub>2</sub>: Two, user configurable  
 0 Vol.% (min) to 25 Vol.% (max) O<sub>2</sub>  
 Measuring range H<sub>2</sub>O: One, user configurable, 0-100 Vol.% H<sub>2</sub>O  
 Accuracy: +/- 0.2% of readings  
 Response time: < 1 second

### Approvals

EC-conformity: 2004/108/EG  
 EMC tested: according to EN55011 Kl.A (2007),  
 EN61000-6-2 (2005),  
 EN61000-3-2 (2006)  
 EN61000-3-3 (1995)+A1,A2

### Electronics

#### Power Supply

Mains voltage: 115 VAC/ 230 VAC +/- 10%  
 Mains frequency: 50 Hz / 60 Hz  
 Power consumption: 250 VA max.

#### Analog Outputs

For: O<sub>2</sub> measured value and  
 H<sub>2</sub>O measured value  
 Type: 0/4 to 20 mA, active source, DC-isolated

#### Digital Outputs

For: Error Status, Maintenance, Measuring  
 Range, Meas. Limit 1, Meas. Limit 2  
 Type: Relay Contact  
 Electrical Data: Max. 24V AC/DC, 1A, resistive load

### Digital Inputs

For: Measuring Range Selection, AUTOCAL,  
 Remote Calibration  
 Type: Optocoupler Input, DC-isolated  
 Electrical data: 0V / 24V DC

### Instrument Air Supply

Quality: ISO 8573-1 class 2  
 Pressure: 4 to 10 bar  
 Consumption: 40 l/h during operation

### Calibration Gas Supply

Flow rate: 180 l/h +/- 5% during calibration/  
 system test  
 Sample gas: No combustibles  
 Calibration gas 1: 20,95% O<sub>2</sub> +/- 2%, balance: N<sub>2</sub> or  
 instrument air  
 Calibration gas 2: 2,1% O<sub>2</sub> +/- 2%, balance: N<sub>2</sub>

### Enclosure

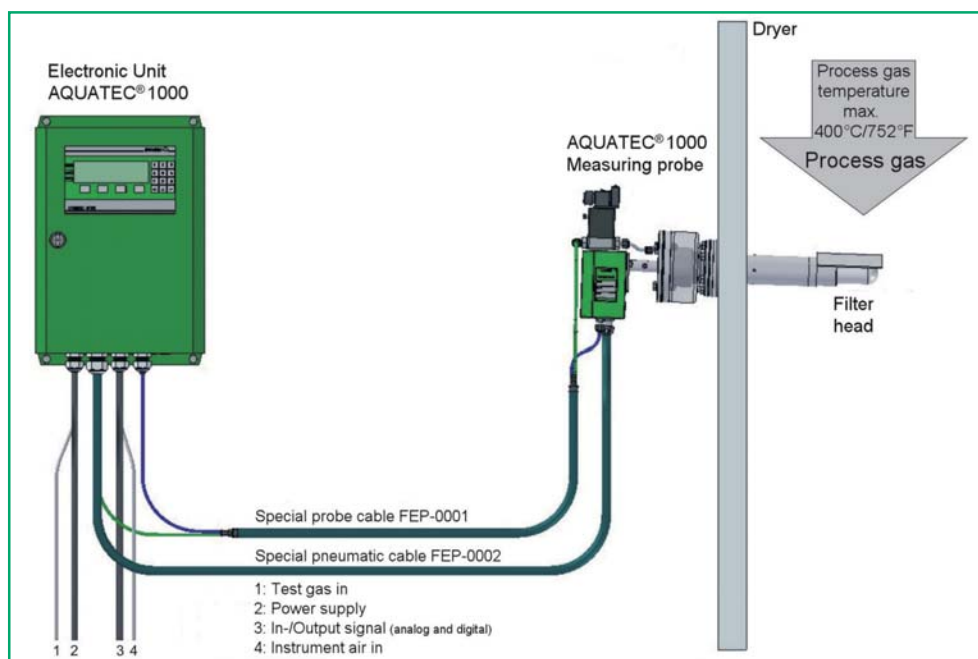
Type: 19" 4U  
 Dimension: 400 x 300 x 240mm  
 Protection class: IP66  
 Operating temp.: -20°C / -4°F to +55°C / +131°F

### Measuring Probe 1322

Max. process gas temp. 400°C  
 Immersion depth: 475mm (others on request)  
 Process gas pressure -50 to +50nbar  
 Ambient temperature: -40°C to +80°C  
 Protection class: IP 65  
 Power supply: via electronics

### Options

+ Interface: Fieldbus Foundation or HART Communication  
 Foundation  
 + Communication interface: RS232 or RS485



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ENOTEC policy is one of continuous product improvement, and therefore reserves the right to change specifications and information as required without prior notice.