



HM Hygrom

HM-100

HM-200

Hangzhou Zetian Technology Co.,Ltd.

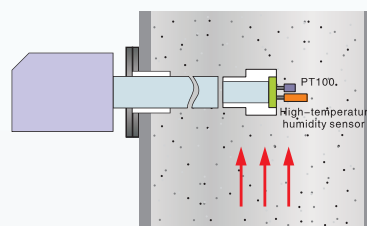
HM-100 High-temperature Hygrom

Overview

Hygrom is also called moisture meter or dew-point meter, which is used to measure humidity of flue gas emitted by pollution source. According to measured humidity, it converts wet gas concentration into dry gas concentration. In addition, it also can be used in industrial online humidity monitoring.

HM-100 flue gas hygrom is equipped with internal high-precision capacitance digital temperature & humidity sensor. The installation method adopts in-situ immersion installation. It is a self-developed product, of which, core component is from Switzerland.

Put sensor inside stack to get in touch with flue gas. The probe needs preheating to prevent gas from condensation, which will affect measurement of moisture in flue gas. After gas contacts with measurement chip, the chip will change capacitance to measure flue gas concentration.



Typical Application

- High-temperature humidity measurement in exhaust emission (CEMS) of fire coal and oil burning boiler
- Humidity measurement in food processing
- Humidity measurement in wood, building material, and papermaking industry
- Humidity measurement in fields of chemical industry and fiber
- Humidity measurement under high temperature of open width dyeing in dyeing & printing industry

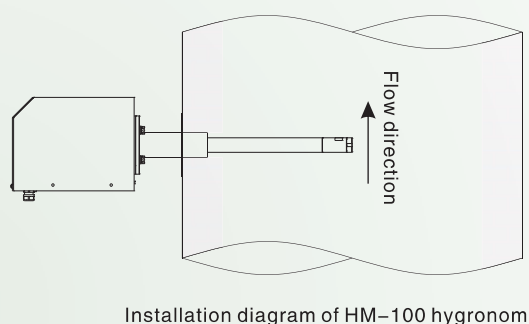
Feature

- The product is convenient for installation, disassembly and cleaning with small and compact structure
- Direct and simple key operation on site
- The probe is equipped with heat tracing function to prevent condensate water from damaging humicap and thermal resistance
- Imported core components with high performance index and reliability

Technical Parameter

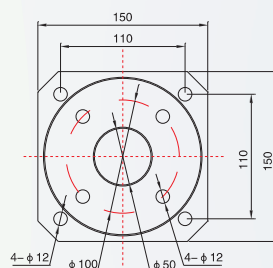
Measurement range	H ₂ O: 0 ~ 40.00% (volume percent) (optional)	Power supply	220VAC
Humidity sensor	Resistance-capacitance	Instrument weight	About 10kg
Temp sensor	Pt100 platinum resistor	Power consumption	Maximum about 35VA (heating)
Accuracy	0 ~ 40.00% H ₂ O:±2%	Ambient temperature	Transmitter: -10°C ~ +55°C
Repeatability	0 ~ 40.00% H ₂ O:±1%		Probe: 0 ~ 180°C (except probe cable)
Stability	0 ~ 40.00% H ₂ O:±1%F.S./7d	Ambient humidity	< 95%RH
Response time	T90 < 6s	Sample gas flow	(2 ~ 6)L/min
Sensor life	> 2 years (under normal use)	Analog output (2 sets)	Temperature and humidity, 4~20mA
Transmitter life	> 5 years (under normal use)	Communication	RS232 (Standard)

Installation Diagram

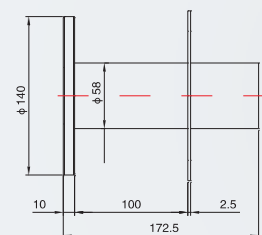


The installation procedures are as follows:

- Step 1: Open an hole on flue wall of hygrom installation point, whose aperture is $\phi 60$.
- Step 2: After the probe flange is inserted, fix with expansion screws to flue wall.
- Step 3: Connect main body of hygrom and probe flange together.
- Step 4: Connect power supply line and signal output line.
- Step 5: After confirming all the connections are correct, power on the device.



Stack trepanning dimension



Flange installation dimension

HM-200 Hygronom

Overview

Hygronom is used to measure humidity of flue gas emitted by pollution source. According to measured humidity, it converts wet gas concentration into dry gas concentration. In addition, it also can be used in industrial online humidity monitoring.

HM-200 hygronom is an intelligent humidity/ oxygen transmitter, which employs microprocessor as the core, and frequency conversion icon oxygen sensor as measuring unit. The installation method adopts heat tracing pipeline installation. It is a self-developed product, of which, core component is from Switzerland.

Under effect of air pump, the flue gas inside stack enters measurement module after heating from heat tracing probe. The whole process of extraction, measurement and discharge is with heat tracing to prevent gas from condensation, which will affect measurement of moisture in flue gas. The flue gas enters measurement module after heating and frequency conversion icon oxygen sensor will start to measure gas concentration. After measurement, the gas can get into analyzer for measurement of other components.



Typical Application

It can be widely applied in high-temperature (300°C) gas (such as desulfuration and denitration) humidity measurement of Continuous Emission Monitoring System (CEMS), humidity measurement and control in fields including wood, building material, papermaking, chemical industry, fiber, pharmacy, textile, tobacco, vegetable and food processing.

Feature

- Portable structure, easy to install and disassemble
- Able to measure humidity of 300°C flue gas
- Able to match with large-scale system for measurement or independent measurement
- The probe is equipped with heat tracing function to prevent condensate water from damaging probe and affecting measuring value
- Imported core components with high performance index and reliability

Technical Parameter

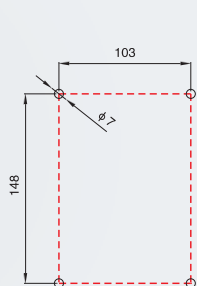
Measurement range	O ₂ : 0 ~ 25.00%, H ₂ O: 0 ~ 40.00% (volume ratio)	Transmitter life	> 5 years (under normal use)
Sensor	Frequency conversion icon oxygen sensor (2)	Power supply	24VDC
Accuracy	0 ~ 1% O ₂ : ± 1.5%F.S.	Instrument weight	Net weight about 2.25kg (include operation panel)
	0 ~ 25% O ₂ : ± 1.5% of measured value	Ambient temperature	Transmitter: -10°C ~ +50°C Probe: 0 ~ 300°C (except probe cable)
	0 ~ 40.00% H ₂ O: ± 1%F.S.	Ambient humidity	< 85%RH
Stability	0 ~ 1% O ₂ : ± 1.5%F.S./7d	Power consumption	Maximum about 35VA (heating) Under normal working: 30 ~ 31W
	0 ~ 25% O ₂ : ± 1.5%/7d of measured value	Sample gas flow	(2 ~ 6) L/min
	0 ~ 40.00% H ₂ O: ± 1%F.S./7d	Analog output (2 sets)	Settable 4~20mA, 0~20mA, 0~1~5~10V, 1~5V
Response time	T90 < 30s	Communication	RS485 (standard)/RS232 (optional)
Sensor life	> 2 years (under normal use)		

Installation Diagram

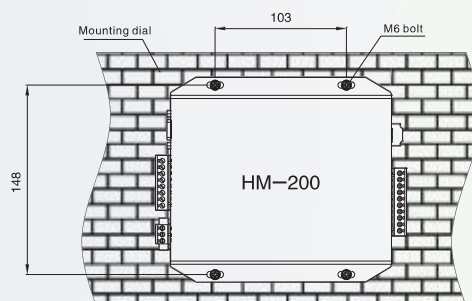
If purchasing the hygronom with CEMS, it will be installed into CEMS directly. If purchasing the hygronom separately, it is required to be installed to the wall with support of bracket. The installation procedures are as follows.

Step 1: After selecting installation point, open 4 holes on mounting dial according to the dimension of following figure. Use four M6 bolts (decide length as needed) and nuts or screws to fix the transmitter on dial or wall.

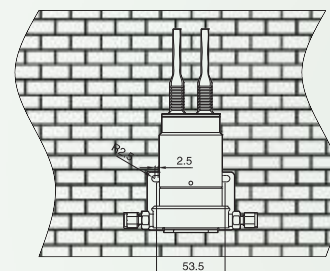
Step 2: After selecting installation point, open 2 installing holes on mounting dial. Pitch between two holes is 53.5mm and pore diameter is $\phi 5$. Use four M4 bolts (decide length as needed) and nuts or screws to fix the transmitter on dial.



Trepanning dimension diagram of electrical module



Electrical module installation diagram



Probe installation diagram

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