9 Things to Consider When Choosing a Best-fit Humidity Instrument

Helping you make a better measurement.

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Webinar Presenters & Humidity Experts

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Agenda & Takeaways

Agenda – the 9 things

1. Measurement objective
2. Measurement environment
3. Required performance
4. Measurement parameter
5. Measurement reporting
6. Instrument utilization
7. Logistical restrictions
8. Pricing
9. Manufacturer

Takeaways

- Know what questions to ask when choosing a best-fit hygrometer

1. What is your measurement objective?

- Regulations – Federal, local or other
- Maintain product quality
- Customer's specification
- Human or animal comfort
- Energy efficiency
- Process stability
- Prevent condensation

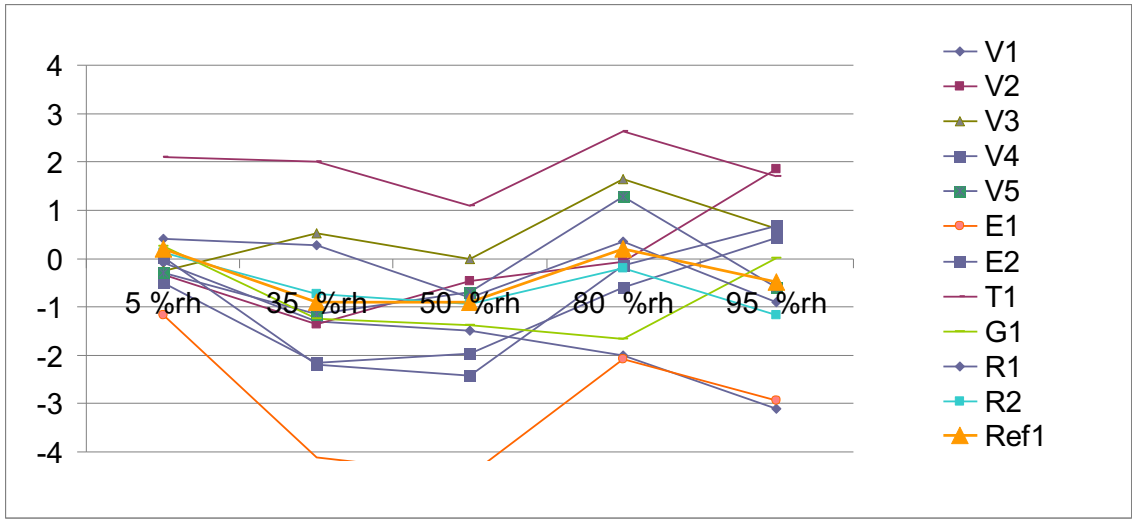
The objective will determine the answers to the following 8 considerations.

2. Understand the measurement environment

- Expected RH, P_w or Dew Point levels
- Expected temperature and pressure ranges
- Will the air be moving?
- Will the environmental conditions be changing quickly or remain fairly stable?

3. What is the required performance of the instrument?

- Uncertainty or Accuracy (driven by #1, Measurement Objective)
- Response time to changes in the measured parameter
- Long term stability (drift)
- Repeatability, hysteresis, linearity
- Output resolution



4. What parameter(s) do you need to know?

Determined by your answers to previous 3 considerations.

- One, two or more parameters
- Common industry practices
- Environmental conditions
- How the measurement will be used
  - (control, observation, research, etc.)
- Regulation or Customer requirement

RH

T_d

ppm

P_w

Comments & Questions

Please type your questions into the chat box at the lower left portion of your screen.

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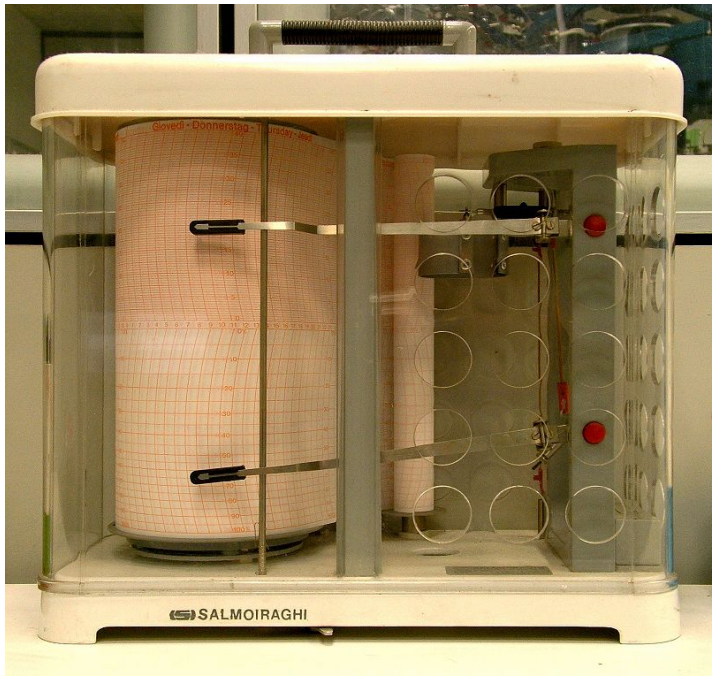
5. What type of signal will be required?

- Analog signal; 4-20mA, 0-1VDC, etc.
- Digital signal; RS232, Ethernet, Modbus, etc.
- Local display only
- Logging or recording device
- Central system i.e. Building Management System
- 21 CFR Part 11 or other traceable storage



6. How will the instrument be utilized?

- Fixed transmitter – environmental conditions to consider
- Portable meter for field measurements, calibration
- Data logger
- In situ or via sampling system
- Will it need to be easily accessible?
- Will removal cause process disruption?
- Gas composition if other than air

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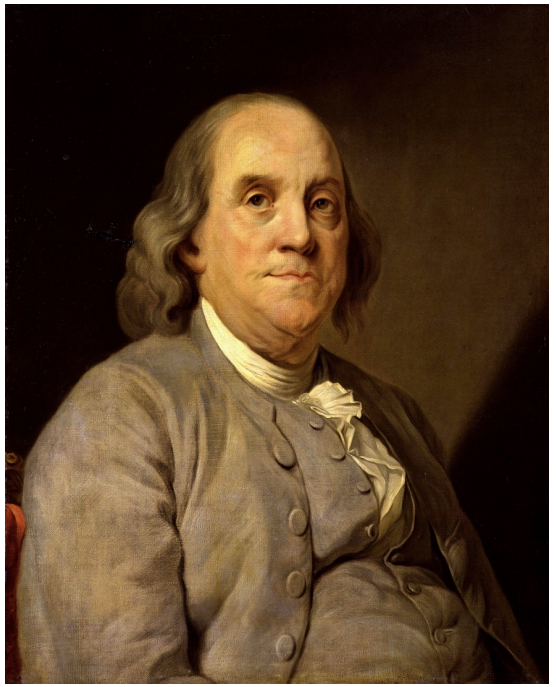
7. What are the logistical constraints?

- Power available (or not)
- NEMA or IP requirements
- Temperature of the environment
- Intrinsically safe or Ex required
- Pressure, vacuum or vapor tight fittings
- Sample conditioning required
- Signal, probe and power wire run distances

8. What is an appropriate price range?

- Better sensor performance = higher price
- Conformance to regulations = higher price
- Harsh or extreme conditions = higher price
- Consider operating cost; i.e. calibration requirements
- Spare parts requirements
- Training, education of the operator
- Cost of a poor or unreliable measurement



"The bitterness of poor quality remains long after the sweetness of low price is forgotten" – Benjamin Franklin

9. How should you choose the manufacturer?

- What level of support may be required?
- What level of expertise will be needed?
- Is depot level support available domestically?
- How were you treated during the purchasing process?
- Were you offered an onsite visit?
- What is the warranty period?
- Is your sales rep asking you these 9 questions?

Summary of the 9 things

1. Measurement objective
2. Measurement environment
3. Required performance
4. Measurement parameter
5. Measurement reporting
6. Instrument utilization
7. Logistical restrictions
8. Pricing
9. Manufacturer

Comments & Questions

If we don't get to your question today, we'll respond via email after the webinar.

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Humidity Academy

- Resources for making a better measurement
  - Psychrometric charts
  - Technical notes
  - Humidity calculator
  - Application notes
  - more

www.rotronic-usa.com/humidity-academy

Next Webinar

How to Read a Psychrometric Chart

Thursday, November 12th 1:00PM EST

- Register at www.rotronic-usa.com/humidity-webinars

- Takeaways
  - Use a psychrometric chart to better understand your specific humidity measurement application.
  - Make a better measurement of humidity by having a strong understanding of the parameters based on a visual representation.
  - Use the psychrometric chart to convert parameters and see how temperature does or does not affect your preferred parameter.

Helping you make a better humidity measurement – and more.

Transmitters, portable meters and loggers for:

- Humidity
- Carbon Dioxide
- Low Dew Point
- Water Activity
- Differential Pressure
- Monitoring systems for cGMP
- ISO 17025 calibrations (humidity and temperature)

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