Overview

- The BA/#-P-x is a Stainless Steel Replacement probe for use with any BAPI Immersion, or Duct temperature sensor. They come in a variety of lengths and with TFE insulated plenum cable. The BA/#-P-x sensor is available in multiple types of thermistor’s or RTD temperature sensors as shown in the specifications. The probe comes without a box and is made to insert into an existing duct or immersion box fitting as a replacement. It is ideal to replace a damaged probe or to change the length of an existing probe installation.

- The BA/#-HxP is a Humidity Replacement probe w/sintered filter for use with any BAPI Duct or OSA RH transmitter. They come pre-calibrated and ready to install and use. The BA/#-HxP probe is available with multiple types of thermistor’s or RTD temperature sensors as shown in the specifications. The replacement probe comes without a box and is made to thread into an existing duct or OSA enclosure. It is ideal to replace a damaged probe or worn-out sensor in an existing installation. Replacement 100 micron SS sintered filters as well as wash down caps are also available. No field calibration is required.

- The BA/#-HxS is a Humidity Sensor Replacement for BAPI room RH transmitters. They come pre-calibrated and ready to install and use. No field calibration is required.

Identification

Fig 1: SS Replacement Sensor Probe (BA/#-P-X)  
Fig 2: Replacement RH Probe (BA/#-HxP)  
Fig 3: Replacement Sintered Filter & Washdown Cap (BA/HDOFS), (BA/VFC)  
Fig 4: Replacement Room RH Sensor (BA/#-HxS)

Specifications subject to change without notice.
Mounting

Fig 5: Typical Temperature Sensor probe replacement
1. Open the box and disconnect the wires.
2. Push the old probe into the box and out through the plastic fitting.
3. Push the new probe into the box and into the plastic fitting all the way to the flared end.
4. Pull the probe to full extension and re-connect per termination section.

Fig 6: Typical Humidity Transmitter Probe Replacement
1. Un-install the box and disconnect the wires from the transmitter. Note color code.
2. Un-screw (CCW) the old 1/2” NPT probe from the back of the box.
3. Screw in (CW) the new 1/2” NPT probe into the back of the box.
4. Install and re-connect the wires per the color code and termination section.

   NOTE: No calibration is needed.

Fig 7: Typical Humidity Probe Filter Replacement
1. Un-screw (CCW) the old 1/2” stainless steel filter.
2. Fully screw in (CW) the new 1/2” stainless steel filter.

   NOTE: The old filter can be cleaned for future use with soap & water and then rinse thoroughly.

Fig 8: Typical Room RH Sensor Replacement
1. Take the sensor cover off using a 1/16” Allen wrench.
2. Un-screw terminals J1 and remove the old blue RH sensor.
3. Install new sensor leads in the terminals with vents facing up.
4. Install the sensor cover.

   NOTE: No calibration is required.

Specifications subject to change without notice.
**Temperature Probe Termination**

- **To Controller Analog Input or Transmitter (AI) (No Polarity)**
- **Same Color**
- **To 3 Wire Transmitter**

**RH Probe Termination**

**Fig 9:** 2 Wire Thermistor or RTD

**Fig 10:** 3 Wire RTD

**Fig 11:** 4-20mA RH Probe With or Without RTD Temp. Transmitter

**Fig 12:** RH Probe With Thermistor Transmitter

**Fig 13:** Voltage RH Probe With or Without Passive Sensor

**Fig 6:** Room Replacement RH Sensor

Specifications subject to change without notice.
Specifications

Temperature Sensor:
- Thermistor: NTC, 2 wire
- RTD: PTC, 2 or 3 wire
- Thermistor: Thermal resistor
- Temp. Output: Resistance
- Accuracy (std): ±0.36°F, (±0.2°C)
- Accuracy (Hi): ±0.18°F, (±0.1°C), [XP] option
- Stability: <0.036°F/Year, (<0.02°C/Year)
- Heat dissipation: 2.7 mW/°C
- Temp. Drift: <0.02°C per year
- Probe range: -40° to 221°F (-40° to 105°C)
- RTD: Resistance Temperature Device
  - Platinum (PT): 100Ω or 1KΩ @0°C, 385 curve,
  - Platinum (PT): 1KΩ @0°C, 375 curve
- PT Accuracy (std): 0.12% @Ref, or ±0.55°F, (±0.3°C)
- PT Accuracy (Hi): 0.06% @Ref, or ±0.277°F, (±0.15°C), [A] option
- PT Stability: ±0.25°F, (±0.14°C)
- PT Self Heating: 0.4°F/mW @0°C
- PT Probe range: -40° to 221°F (-40° to 105°C)
- Nickel (Ni): 1000Ω@70°F, JCI curve
  - Ni Probe range: -40° to 221°F (-40° to 105°C)
- Sensitivity: bapihvac.com click “Sensor Specs”
  - Thermistor: Non-linier
  - RTD (PT): 3.85Ω/°C for 1KΩ RTD
  - 0.385Ω/°C for 100Ω RTD
  - Nickel (Ni): 2.95Ω/°F for the JCI RTD
- Lead wire: 22awg stranded
- Wire Insulation: FEP jacketed plenum rated cable
- Probe: Rigid, 304 Stainless Steel, 0.25” OD
- Mounting: Inserted into Plastic Fitting
- Agency: RoHS, CE

RH Sensor and Probe:
- Sensor: Humidity Resitive (Impedance)
- Temp. Per sensor spec above
- Filter: 100 micron sintered stainless steel
- Wiring:
  - Duct Probe: RH- 4 flying leads, Opt. Temp.- 2 flying leads
  - OSA Probe: RH- 4 flying leads, Opt. Temp.- 2 flying leads
- Probe Termination Required:
  - Sealant filled crimp connectors, (BA/SFC1000-100)
- Accuracy:
  - H2P, H2S: 2%, from 15% to 95%RH @77°F
  - H3P, H2S: 3%, from 15% to 95%RH @77°F
- Probe Material:
  - Duct: ABS Plastic, UL94V-HB
  - OSA: Polycarbonate, UV resistant, UL94V-HB
- Environmental Ambient Range:
  - -22° to 158°F, (-30° to 70°C)
  - 0% to 100% RH