

MODELS P51 AND P52 RIGID SENSING PROBES DIRECTLY INSERTED INTO THE VESSEL

ADVANTAGES FOR LIQUIDS AND INTERFACES

- General purpose for most applications
- Simple construction and easily installed
- Small 3/4" MPT process connection size
- PTFE insulation allows operation in conductive or nonconductive liquids at high temperatures
- High pressure PTFE seal is reliable; up to 1500 PSIG (100 bar) working pressure @ 100°F (40°C)
- Up to 450°F (230°C) process temperature
- Clamped PTFE seal is reliable, thousands have been in service for more than 30 years.
- Double gland seal available for lethal service
- Open design resists material deposition and is easy to clean; sanitary flanges are also available
- Easy to install, vertically or horizontally; top down, bottom up, or in from the vessel side
- Can be used in many slurry and entrained solids applications

APPLICATION

The P51 and P52 probes are designed as a general purpose sensor for use in many common applications. The sensing rod is jacketed in thick extruded and welded PTFE. There are no thin coatings or glued joints to fail.

The sensing rod sealing gland is extremely reliable. Thousands have been installed over the last 30 years, sealing in such process materials as steam, hydrogen cyanide, gasoline, chlorine, liquid oxygen, chocolate, and wastewater. The gland follower seals are inside the body, which has a solid exterior. There are no screwed together joints in the gland which can inadvertently be turned, causing leaks, environmental spills, and toxic discharges. The gland body may be made of exotic metal or industrial plastics for highly corrosive service.

The P52 probe has the same appearance as the P51 probe except that it has a larger gland, seal, and sensing probe. It is intended for use in services with higher mechanical stress, such as agitated tanks, services requiring long unsupported sensing rods, mixers, and the like.

SPECIFICATIONS

Working Pressure: 1500 PSIG (100 BAR) at 100°F (40°C)

Working Temperature: -460 to +400°F (-273 to +200°C)

Temperature Extension: Required for less than -20°F (-30°C) or higher than 175°F (80°C)

Insertion Length: To 20 feet (6 M)

Process Connection: MPT basic, flanged (any type) is optional

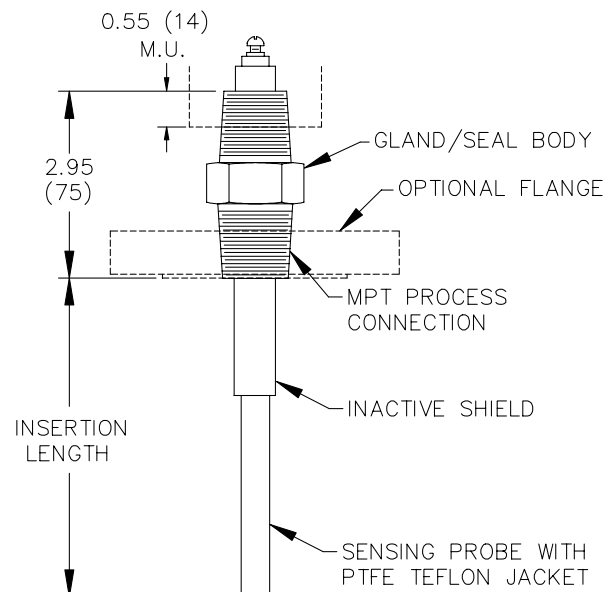
Electronics Module: Compatible with all models

Wall Mount Support Bracket: Optional

Process Temperature Sensing: Optional on P52 only; any span from -125 to 250°F (-85 to 120°C); over a second 4-20 mA isolated signal loop.

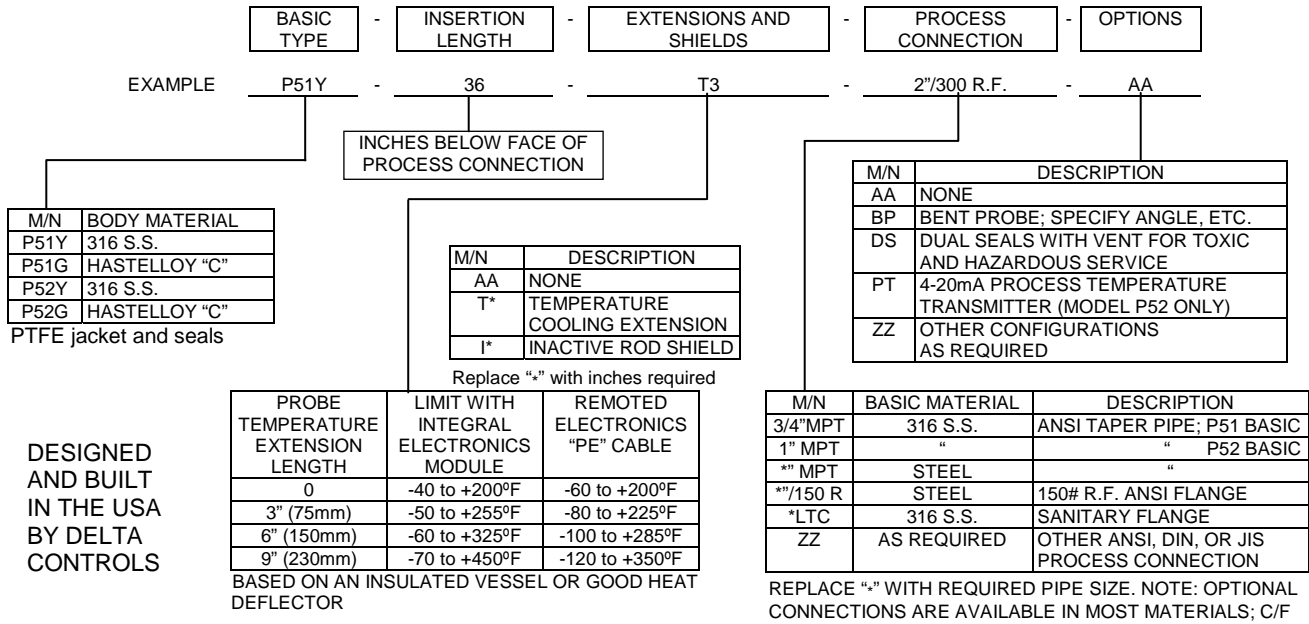


OUTLINE DIMENSIONS



DELTA CONTROLS
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MODEL NUMBERING SYSTEM

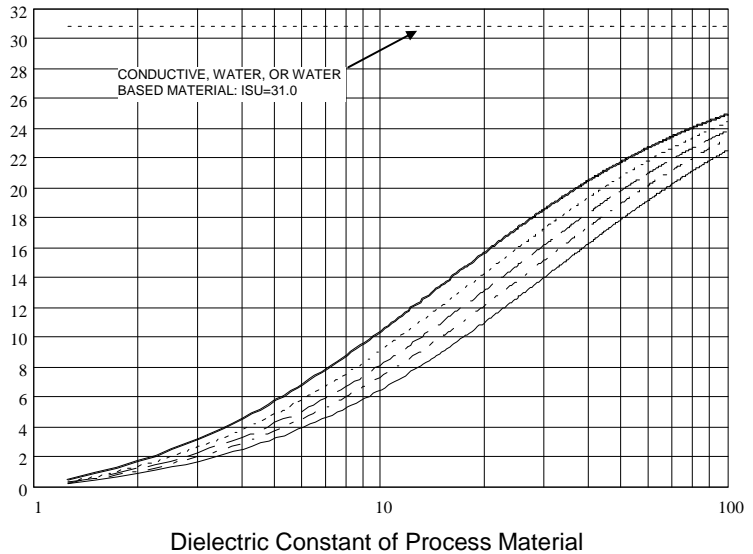
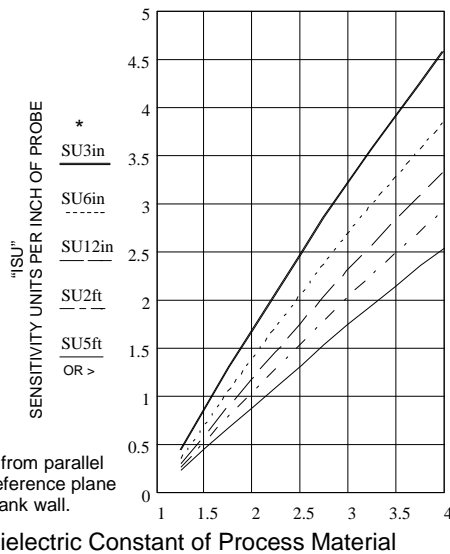


DETERMINING PROBE PERFORMANCE

Step # 1 Determine "BSU"; total sensing unit equivalents when no material is covering the sensing probe.

- A. Basic SU due to seal/body/temp extension = 121
 - B. Inches sensing probe insertion x 2.0 = _____
 - C. Inches inactive shield x 31.0 = _____
 - D. Inches temperature extension x 31.0 = _____
 - E. Inches cable for remoted module x 4.5 = _____
- "BSU" TOTAL = _____

Step # 2 Determine "ISU"; quantity of sensing unit change due to a 1.0 inch change in the amount of process material covering the sensing probe. "ISU" = Read from graph below



Step # 3 Insert "BSU" and "ISU" (determined above) into the formulas shown in Application Note # PROB-198; "FORMULAS FOR MODELING AND PERFORMANCE TESTING". Verify that the selected probe and electronics module will meet the requirements of the application and provide the expected results.



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