

Model IPT

- Continuous Interface Position Signal
- Up to 6 Foot (1800mm) Measurement Range
- Extract/Remove the Sensor or Clean it in Place
- Pushbutton Calibration
- 2 Wire 4-20 mA Interface Position Signal

MEASURING DESALTER INTERFACE

Measurement of the interface position between water/oil in refinery desalters has commonly been attempted through the use of analog type capacitance level transmitters. Unfortunately, the measuring probe of these devices quickly becomes coated with carbon, water emulsions, and other material. This coating and buildup creates interface position errors and eventually renders the output signal meaningless. Probe cleaning is effective, but is not practical because the desalter must be shut down before the probe can be removed.

The Delta Controls Model IPT is a specially designed probe type interface transmitter that does not require shutdown of the desalter. The sensing probe design is less sensitive to buildup. It also permits extraction, cleaning of the probe and reinsertion without disturbing the operation of the desalter unit. The IPT design allows the needed infrequent cleaning of the probe to be easily and safely performed.

The Model IPT assembly is mounted on top of a desalter isolation valve, which allows its removal without depressurizing the desalter. The sensing probe is withdrawn into a chamber located above the block valve whenever access to the probe is desired. The valve is then closed beneath it, permitting depressurization of only the withdrawal chamber for cleaning. If required, the entire Model IPT can be completely removed without disturbing the desalter.

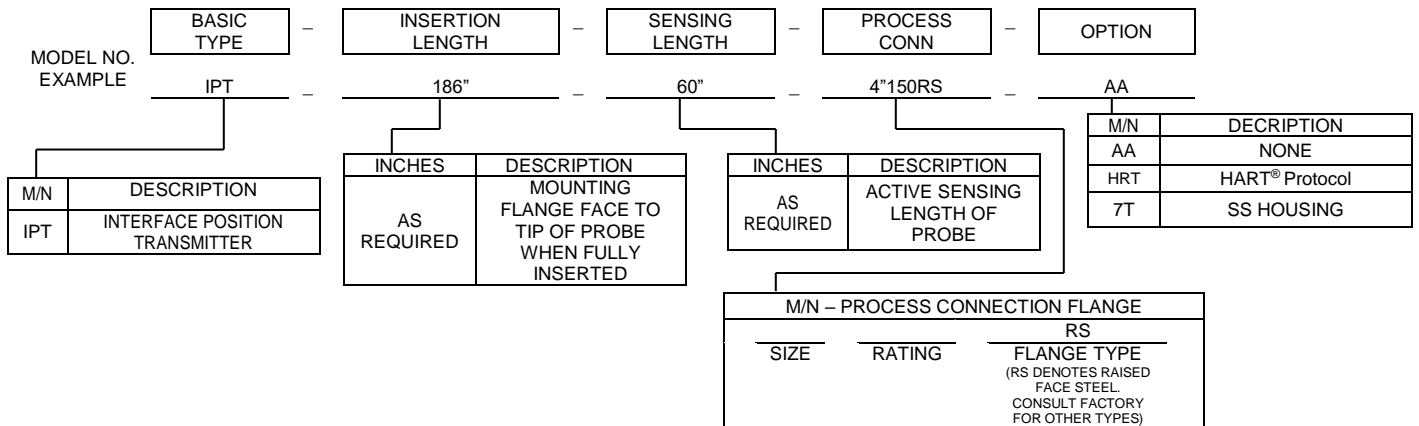


How the Model IPT Senses Interface Position in a Desalter Water/Oil System

The IPT senses interface position by measuring energy transferred from the probe into the surrounding material. The energy transfer is at a minimum when the probe is covered with crude oil and at a maximum when it is covered with water. The Model IPT transmitter is calibrated by entering two interface elevation points. The transmitter then automatically calculates a curve through those points. The result is a 4-20 mA output signal that is proportional to the elevation of the interface position. This information is displayed on the integral LCD display.



DESALTER INTERFACE POSITION TRANSMITTER MODEL NUMBERING SYSTEM



SPECIFICATIONS

Output 4-20 mA DC loop signal, isolated
Loop Impedance, maximum: 500Ω @ 24 VDC; 900Ω @ 30 VDC

Display: LCD Screen, 2 line, 8 character, Alphanumeric
Calibration Entry: Four pushbutton switches
Voltage Requirements: 12-30 VDC Loop Power
Ambient Temperature Range: From 30 to 125°F (0 to 50°C), for good readability of display;
 From -20°F to +175°F (-30 to 80°C), transmitter function

Housing Aluminum, Class 1, Division 1, Groups BCD; 4x, CSA NRTL/C (CANADA / U.S.)

Process connections: 4" (100mm) recommended; 2" (50mm) minimum; ANSI or equivalent DIN, JIS Flanges

Wetted materials: Carbon steel, 316 stainless steel, and PTFE are standard; others available

Insertion and other Dimensions: As required by desalter design
 Required Application Data: Please complete Data Sheet 00-IPT05

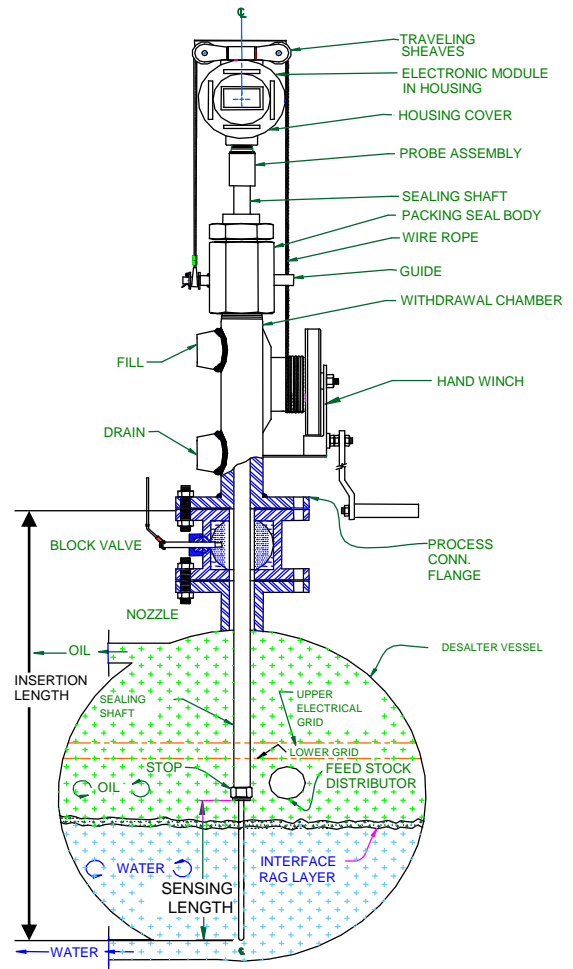
Maintenance:.....(When buildup on sensor causes an error)
 Retract sensor up into chamber; close block valve;
 Clean buildup off with steam or solvents;
 open block valve and reinsert sensor into desalter.

NOTE: Frequency of cleaning required is determined by the crude oil being run. The time period will normally be in terms of months.



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INSTALLATION SCHEMATIC



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