

# Proximity Plate Probe Adapter

## GENERAL DESCRIPTION

The Proximity Plate Probe Adapter 904SA319 is used with standard 7/16" diameter bare probe Model 741A. The adapter assembly is mounted onto the probe rod by two set screws and provides ± 1" of adjustability.

## APPLICATION

The probe adapter is intended for non-contacting level sensing applications where material being sensed would cling or stick to a conventional rod probe. Also suited for applications involving high temperature conductive materials.

Care must be exercised in the application of proximity plate probes to insure that an adequate capacitance change is produced to operate the instrument. For Level Tek applications the minimum recommended capacitance change is 5 pf over the anticipated level variation. For Level Tel applications, or proportional control, the minimum recommended capacitance change is 20 pf over the anticipated level change. To calculate the resulting capacitance change for a given plate area and a given level change between the plate and the material, the following may be used:

$$\Delta C \text{ Pf} = \frac{A (D_{\text{max}} - D_{\text{min}}) (.225)}{(D_{\text{max}}) (D_{\text{min}})}$$

Where A = plate area in square inches.

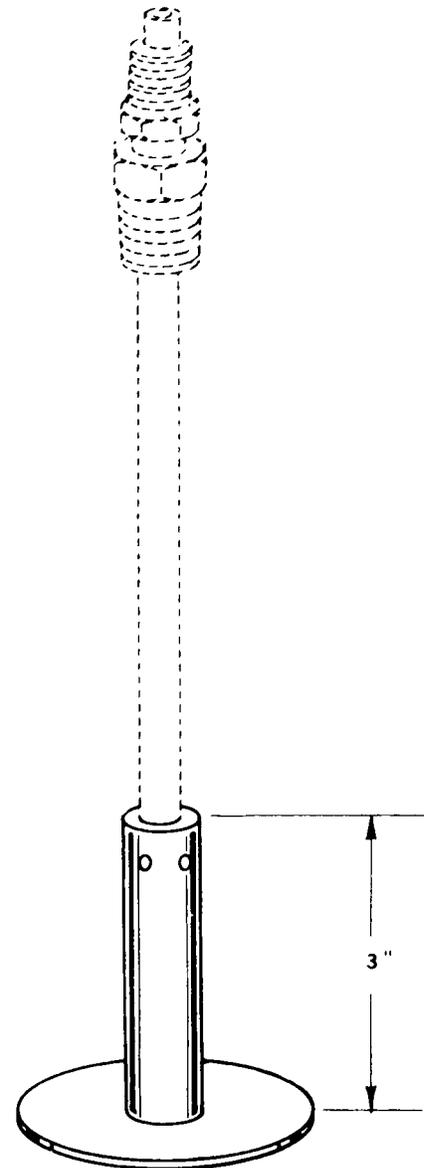
D<sub>max</sub> = Maximum distance between plate and material, in inches.

D<sub>min</sub> = Minimum distance between plate and material, in inches.

To determine the size or area of a proximity plate necessary to produce a given capacitance change over an anticipated level change, the following may be used:

$$A = \frac{\Delta C (D_{\text{max}}) (D_{\text{min}})}{.225 (D_{\text{max}} - D_{\text{min}})}$$

(The foregoing equations assume the material being sensed in conductive, and, for practical purposes, any material with a moisture content greater than 15 percent is considered conductive.)



**SPECIFICATIONS**

*Probe adapter materials* .....316 St. St.  
*Adjustability* ..... ± 1"  
*Probe rod size* .....7/16" Dia.  
*Plate thickness* ..... 1/8"  
*Plate diameter* .....(See ordering info.)  
*Maximum temperature* ..... 1000° F.

**ORDERING INFORMATION**

**904 SA 319 - XX**

Base Number \_\_\_\_\_  
 Plate diameter in inches \_\_\_\_\_

<b>Part No.</b>	<b>Description</b>
904SA319-03	Proximity Plate Probe Adapter, 3" diameter plate, 1/8"thick.
904SA319-06	Proximity Plate Probe Adapter, 6" diameter plate, 1/8" thick.
904SA319-12	Proximity Plate Probe Adapter, 12" diameter plate, 1/8" thick.
904SA319-XX	Special Plate Size.



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