

# Electrical Resistance (ER) Probes

Request A Quote

MODEL 3700/3705



## Features

- **Flush Element**
- **Mounting - 1" Full Port Valve Minimum (Model 3705)**
- **Mounting - 1½" Valve Minimum (Model 3700)**
- **Temperature Rating - +500° F / 260° C**
- **Pressure Rating - 1500 PSI / 10.3 MPa**
- **Element Seal Material - Glass (Model 3705)  
- Ryton (Model 3700)**
- **Fill Material - Ceramic**
- **Probe Body Material - Stainless Steel**

Model 3700 and 3705 retractable process electrical resistance probes have a flat strip measuring element sealed and mounted at the end of a heavy walled stainless-steel tube. By adjusting the position of the probe or proper selection of the physical dimensions of the coupling system, the measuring element can be positioned flush with the inner surface of the pipe or vessel. Corrosion or erosion can then be measured right

at this surface, and the lines may be pigged without moving the probes. The Model 3705 is smaller in size but limited to a sensitive S8 element. For higher corrosion rate, the larger Model 3700 provides for thicker elements. These probes may be used in any organic or inorganic environment up to a pH of 9. No replacement insert is available for the Model 3705, but is available on the Model 3700.

**COSASCO**<sup>®</sup>

# MODEL 3700/3705

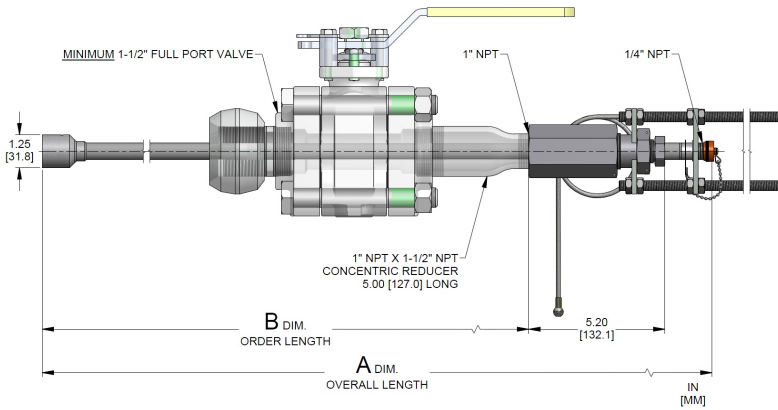
## Element Availability

UNS Number	Alloy	S8	S10	S20	S40	UNS Number	Alloy	S8	S10	S20	S40
C70610	CuNi 90/10 CDA #706		•	•		N10276	Hastelloy C-276		•	•	•
K03005	Pipe Grade Carbon Steel	•	•	•	•	S31600	316 S.S.		•	•	•
A106GRB	A106 Gr. B		•	•		S31603	316L S.S.		•	•	•
N06625	Inconel 625		•	•		S31703	AISI 317L S.S.		•	•	
N08367	Incoloy 25-6HN		•	•		S31803	2205 Duplex S.S.		•	•	
S30400	304 S.S.		•	•	•	S50200	502 S.S. (5% Cr ½% Mo) (UNS K41545)		•	•	
S30403	304L S.S.		•	•	•	A333GB6	A333Gr.6		•	•	
<b>Inches</b>		.004	.005	.010	.020	<b>Inches</b>		.004	.005	.010	.020
<b>Useful Range (mm)</b>		.100	.175	.250	.510	<b>Useful Range (mm)</b>		.100	.175	.250	.510

**Table 1**

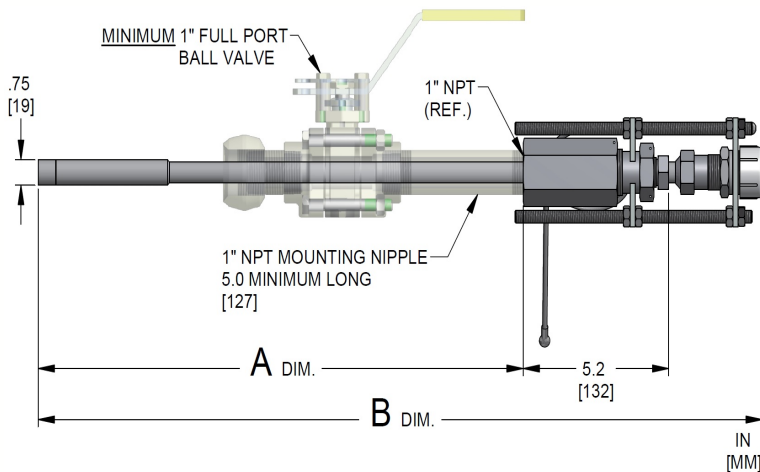
Other element alloys or styles may be supplied subject to material availability.

## Dimensions



**Model 3700**  
**“S” Type Conn.**

Order Length	“A” Dimension		“B” Dimension	
	Inches	mm	Inches	mm
18	19.0	483	25.0	635
24	25.0	635	31.0	787
30	31.0	787	37.0	940
36	37.0	940	43.0	1092



**Model 3705**  
**“A” Type Conn.**

Order Length	“A” Dimension		“B” Dimension	
	Inches	mm	Inches	mm
18	16.9	429	24.75	628
24	22.9	582	30.75	781
30	28.9	734	36.75	933
36	34.9	886	42.75	1086

# MODEL 3700/3705

## Ordering Information

**Note:** For flush devices which are protruding into the line that may experience high velocity process conditions it is recommended that Drag Force Calculations be performed – please contact a Cosasco representative for further details.

Model	Retractable ER Probe									
3700	Complete Probe Assembly									
3701	Replacement Probe Insert for Model 3700									
3705	Complete Probe Assembly <sup>1</sup>									
	<b>Code</b>	<b>Element Form: See Table 1 for availability</b>								
	S8	Strip, Flush (4 mil useful probe life:3705 only)								
	S10	Flush Strip Element, 10 mil thickness (5 mil useful probe life: 3700 only)								
	S20	Flush Strip Element, 20 mil thickness (10 mil useful probe life: 3700 only)								
	S40	Flush Strip Element, 40 mil thickness (20 mil useful probe life: 3700 only)								
		<b>Code</b>	<b>Element Alloy: See Table 1 for availability</b>							
		XXXXXX	Enter UNS number							
			<b>Code</b>	<b>Order Length</b>						
			18	18 inches						
			24	24 inches						
			30	30 inches						
			36	36 inches						
				<b>Code</b>	<b>Safety Clamp</b>					
				0	Not Included					
				1	Safety Clamp Installed					
<b>3700</b>	<b>—</b>	<b>S10</b>	<b>—</b>	<b>K03005</b>	<b>—</b>	<b>24</b>	<b>—</b>	<b>1</b>	←	<b>Example</b>
<b>3701</b>	<b>—</b>	<b>S10</b>	<b>—</b>	<b>K03005</b>	<b>—</b>	<b>24</b>	←			<b>Example</b>
<b>3705</b>	<b>—</b>	<b>S8</b>	<b>—</b>	<b>K03005</b>	<b>—</b>	<b>18</b>	<b>—</b>	<b>1</b>	←	<b>Example</b>

**Note 1:** A replacement insert is not available for this model since the stuffing box is trapped between the probe header and the A type connector.

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