

Electrical Resistance (ER) Probes

MODEL 4500



Features

- **High Pressure Cylindrical Element**
- **Mounting – Electrical Resistance (ER) 2" System**
- **Temperature Rating - +500° F / +260° C**
- **Pressure Rating - 6000 PSI / 41.3 MPa ("S" Type Connector)
- 3600 PSI / 24.8 MPa ("C" Type Connector)**
- **Element Seal Material - All Welded**
- **Fill Material - Ceramic**
- **Probe Body Material - Same as Element**

A new style of the Model 4500 electrical resistance probe is now available with an even more durable construction and incorporating a connector with shrouded pins to prevent accidental damage. It is recommended for all new installations. This new style incorporates welded shields where required and requires a different probe connecting adaptor (see order details). The Model 4500 ER probe is the most rugged mechanically and the least affected by temperature fluctuations. Shields are recommended for high velocity situations. Welds are vacuum annealed during assembly to avoid preferential corrosion. Probe adapters are required to make the cable connection to the probe.

Ordering Length = $P + T + 1.25"$

Where: P = Penetration required into pipe or vessel.
T = Wall Thickness of pipe or vessel.

NOTE: Formula is based upon standard access fitting height of 5.25 inches and 1/16" weld gap per ANSI B31.1.

Example: 6" Sch. 80 pipe* with 3" penetration required; $3" + .432"* + 1.25 = 4.682"$. Round 4.682" down to next 1/4" for an ordering length of 4.5".

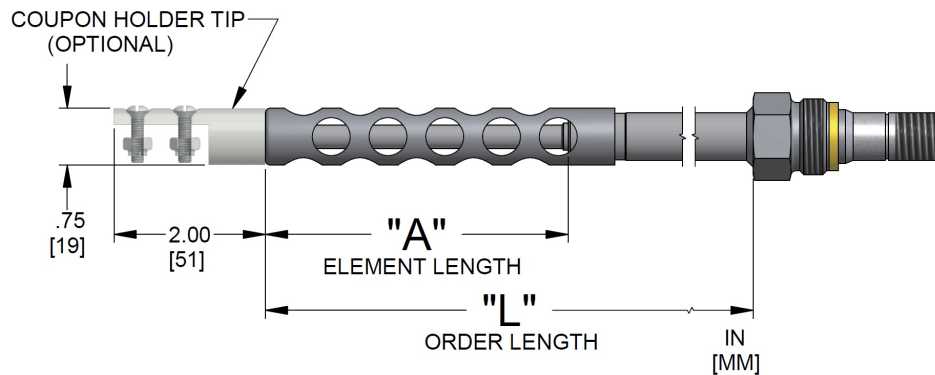
Element Availability

UNS NUMBER	ALLOY	T10	T20	T50	UNS NUMBER	ALLOY	T10	T20	T50		
K03005	Pipe Grade Carbon Steel	■	■	■	N08020	CARP 20-Cb3	■	■			
K03006	A106 Gr. B/A333 Gr.6	■	■		S50400	9% Cr 1% Mo	■	■			
S30400	304 S.S.	■	■	■	N04400	Monel 400	■	■			
S30403	304L S.S.	■	■		N06600	Inconel 600	■	■			
S31600	316 S.S.	■	■		N06625	Inconel 625	■	■			
S31603	316L S.S.	■	■		N08825	Inconel 825	■	■			
S31703	317 S.S.	■	■	■	N10276	Hastelloy C-276	■	■			
S31803	2205 Duplex S.S.	■	■								
S32100	321 S.S.	■	■								
S41000	410 Stainless Steel	■	■								
S50200	502 S.S.(5% Cr ½% Mo)	■	■								
N08904	904L S.S.	■	■								
		Inches	.005	.010	.025			Inches	.005	.010	.025
		Useful Range (mm)	.127	.254	.635			Useful Range (mm)	.127	.254	.635

Table 1

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

Dimensions



Element Type	"A" Dimension		"B" Dimension	
	Inches	mm	Inches	mm
T10	2.25	57	3.25	83
T20	4.00	102	5.00	127
T50	10.00	254	11.00	279

Ordering Information

Note: For high velocity process conditions it is recommended that Wake Frequency Calculations be performed – please contact Cosasco representative for further details.

Model	Retrievable ER Probe-Cylindrical Element					
4500	Complete Probe Assembly					
	Code	Element Form: See Table 1 for Availability				
	T10	Cylindrical, 10 mil thickness (5 mil useful probe life)				
	T20	Cylindrical, 20 mil thickness (10 mil useful probe life)				
	T50	Cylindrical, 50 mil thickness (25 mil useful probe life)				
	Code	Element Alloy: See Table 1 for Availability				
	XXXXXX	Enter UNS Number				
	Code	Order Length				
	XX.XXX	Inch Order Length in 1/4" Increments From 2.75" (3.25" w/shield) TO 36.00" for T10 Elements From 4.50" (5.00" w/shield) TO 36.00" for T20 Elements From 10.50" (11.00" w/shield) TO 36.00" for T50 Elements				
	Code	Shield				
	0	Not Included (Liquids to 8 ft/sec, gases to 25 ft/sec)				
	1	Standard (Liquids to 25 ft/sec, gases to 75 ft/sec)				
	2	High Velocity/Erosion (Liquids to 50 ft/sec, gases to 150 ft/sec)				
	3*	Coupon Holding (Liquids to 25 ft/sec, gases to 75 ft/sec)				
	Code	Connector				
	0	"S" Type With Shrouded Pins (New Type) ⁽¹⁾				
4500	T20	K03005	5.25	0	0	EXAMPLE

Note: ⁽¹⁾ Probe connection adapters as follows: for portable instrument 028043, for permanent connection 028068

*Coupon holding tip will extend 2" beyond order length coupon holding shields use CI-RS strip coupons.

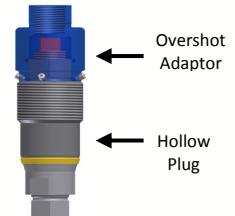
Unit Weight: Probe length 3.25" - 12", 3 lbs. / 1.36 kg.
Probe length 12.25" - 24", 4.5 lbs. / 2.04 kg.
Probe length 24.25" - 36", 6 lbs. / 2.72 kg.

Probe Adapters:

028043 – For use with portable instruments.
028068 – For permanent connection at 2500 psi max.
745113 – For permanent connection at 10,000 psi max., when used with Pressure retaining cover P/N 740095

RECOMMENDED:

Overshot Adapter: P/N 126292
An overshot adapter is not required, but is recommended for use with the 4500 probe. It permits removal and installation of hollow plug with probe and a steel pipe plug in place (keeps inside of probe area clean and dry).



©Rohrbach Cosasco Systems, Inc. All rights reserved

The contents of this publication are presented for information purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described wherein or their use or applicability. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.

Rohrbach Cosasco Systems Corrosion Monitoring Equipment is manufactured and sold under one or more of the following US Patents: 4138878, 4238298, 4338563, 4514681, 4537071, 4587479, 4605626, 4625557, 4755744, 4839580, 4841787, 4882537 5243297

COSASCO



ISO 9001:2008
Certificate No. FM 10694

Cosasco

11841 Smith Avenue
Santa Fe Springs, CA 90670, USA
Tel: 1-562-949-0123
Email: sales@cosasco.com
Web Site: www.cosasco.com

Bulletin #240-R Rev. Date: 11/05/2015