This Linear Polarization Resistance (LPR) probe employs two identical electrodes which are mounted at the end of the probe by threaded, insulated, glass-sealed studs. The glass seals provide high pressure integrity. The probe is sealed into the hollow plug of the access fitting with a ceramic filled Teflon seal. Two electrode probes are suitable for the majority of problems where LPR techniques are applicable.

When monitored by “Solution Resistance Compensating” instruments such as the AquaMate™, Model 9030 Plus, or E-9020 LPR Probes may be used in low conductivity solutions (see Fig. 1 of the LPR Probe Selection Guide). LPR Probes are used by major companies world-wide to measure corrosion in water floods, cooling water loops and other aqueous systems and to provide direct control of inhibitor addition for optimum economy and corrosion protection.

**Features**

- High Pressure Two-Electrode
- Mounting - 2” Access Fitting Assembly
- Electrode Seal Material – Glass / Viton O-ring
- Fill Material - Epoxy
- Body Material – 316 L S.S.

**Temperature and Pressure Ratings**

- Temperature Rating - +300°F / +150° C
- Pressure Rating - 6000 PSI / 41.3 MPa
### Element Availability

<table>
<thead>
<tr>
<th>UNS Number</th>
<th>Alloy</th>
<th>UNS Number</th>
<th>Alloy</th>
</tr>
</thead>
<tbody>
<tr>
<td>K03005</td>
<td>Pipe Grade Carbon Steel</td>
<td>C11000</td>
<td>Copper 110 ETP</td>
</tr>
<tr>
<td>S30400</td>
<td>304 S.S.</td>
<td>C70610</td>
<td>Cu/Ni 90/10</td>
</tr>
<tr>
<td>S30403</td>
<td>304L S.S.</td>
<td>C44300</td>
<td>ARS.AD.Brass CDA #443</td>
</tr>
<tr>
<td>S31600</td>
<td>316 S.S.</td>
<td>A91100</td>
<td>Aluminum 1100</td>
</tr>
<tr>
<td>S31603</td>
<td>316L S.S.</td>
<td>A92024</td>
<td>Aluminum 2024</td>
</tr>
<tr>
<td>N08020</td>
<td>Carpenter 20 Cb3</td>
<td>R50400</td>
<td>Titanium GR2</td>
</tr>
<tr>
<td>N04400</td>
<td>Monel 400</td>
<td>060942</td>
<td>D.G.M. (Galvanic)</td>
</tr>
<tr>
<td>C71500</td>
<td>Cu/Ni 70/30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 1**

All elements are furnished “as machined” unless otherwise specified. Exceptions are Mild Steel which is vacuum annealed.

### Probe Sizing

Depending on the monitoring position of the probe (Fig. 1) select the correct probe length using the following formula:

\[
\text{Ordering Length} = P + T + 1.25''
\]

Where \( P \) = Penetration required into pipe or vessel  
\( T \) = Wall thickness of pipe or vessel

Round down to the nearest quarter inch. In order to function properly the LPR electrodes must be fully wetted. To achieve this, minimum penetration is 1.375 inches. The formula is based upon an access fitting height of 5.25” and 1/16” weld gap per ANSI B31.1.

LPR electrodes have been made of a great variety of materials and often, in the case of special alloys from samples provided by the customer. To give correct results electrodes must be made from defect-free stock which has been properly machined. Please contact your Cosasco representative if the alloy of interest to you is not shown in the Alloy Table.

Electrodes are also available as individual sets with part number 060814 - XXXXXX, where XXXXXX is the UNS alloy number.

### Dimensions
Ordering Information

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Retrievable High Pressure Access System LPR Probe Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>6080</td>
<td>Complete Probe Assembly</td>
</tr>
</tbody>
</table>

Code | Order Length |
-----|--------------|
XX.XX| Probes are Available in Lengths From 2.00” Minimum to 36” Maximum in ¼” Increments |

Code | Electrode Element Alloy; See Table 1 |
-----|-------------------------------------|
XXXXXX| Enter UNS Number: Enter 0 if not required |

Code | Shield |
-----|--------|
0    | Not Required (Liquids 20 ft./sec Max) |
1    | High Velocity (Liquids 50 ft./sec Max) |

Code | Insulators |
-----|------------|
0    | “S” Type with Shrouded Pins (New Type) |

Example: 6080 — 6.25 — K03005 — 0 — 0

Note 1: Adapter #028068 for permanent instrumentation and #028043 for portable instrumentation (new style connector only). #745123 for ER Hydraulic High Pressure Probe (10,000 PSI).

Note 2: Electrodes are packaged separately to avoid damage to the surface.

Unit Weight: Probe Assembly —
2.75” – 12.00” 3 lbs. / 1.36 kg.
12.25” – 20.00” 4.5 lbs. / 2.04 kg.
20.25” – 36.00” 6 lbs. / 2.72 kg.

Probe Adaptors are required to make the cable connection on the probe which is recessed in the access fitting.

RECOMMENDED:
Overshot Adapter: P/N 126292
An overshot adapter is not required, but is recommended for use with the 6080 probe. It permits removal and installation of hollow plug with probe and a steel pipe plug in place (keeps probe pins clean and dry).