

Fixed Galvanic Probe 2 Element

GENERAL

Caproco offers a range of high quality, high integrity galvanic probes which utilize a 2 projecting element configuration to measure the galvanic current.

Water injection is a popular secondary recovery method for increasing oilfield production. When used as a displacing fluid, water is often treated to remove corrosive contaminants such as dissolved oxygen. Oxygen is a reactive gas which, when available, vigorously takes part in the corrosion process. Leakage of oxygen into a normally de-aerated process stream can increase corrosion in a galvanic cell. If brass valves and steel piping are exposed to de-aerated water, little galvanic interaction occurs and galvanic corrosion currents are low. However, if oxygen leaks into the system, then the corrosion reactions and galvanic currents both increase with the resultant corrosion of the steel piping. The appropriate instrument, connected to a probe installed with steel and brass electrodes, can quickly detect oxygen contamination in the process stream.

APPLICATION

The two electrode galvanic probe is designed to measure the magnitude of the galvanic corrosion current generated by a galvanic couple. The natural difference in potential existing between the metals in a galvanic couple serves as a driving force (*voltage*) to pass current through the electrolyte surrounding the two metals.

Galvanic probe elements are replaceable once they have corroded past their useful life. The fixed style probe must be used in systems which can be depressurized for insertion and removal.

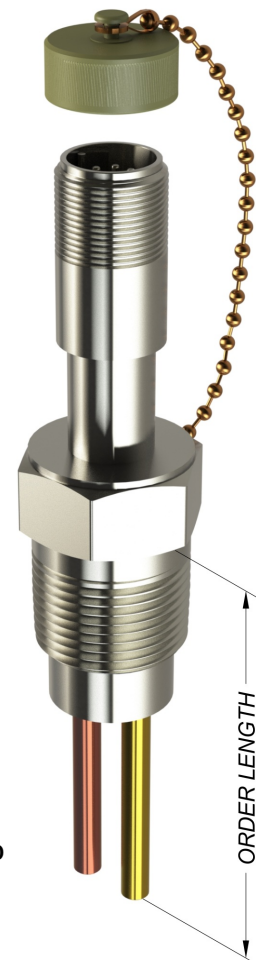
Specifications

Caproco galvanic probes are manufactured from 316 stainless steel with AISI 1018 mild steel and brass elements. Probe bodies and elements are available in alternative materials upon request. Caproco fixed probes are designed for mounting through a standard thread-o-let fitting, available in 3/4", 1", 1 1/2" and 2" NPT configurations.

PROBE LENGTH IS MEASURED FROM THE START OF THE NPT THREAD TO ELEMENT END

| | |
|-------------------------------|--|
| Element Length | 3.00" x 0.25" (76mm x 6mm) |
| Maximum Operating Pressure | 3,600 / 6,000 psi (24.8 / 41.4 MPa) |
| Maximum Operating Temperature | 500°F (260°C) |

| | |
|---------------|--|
| PROBE SEALING | Element and connector pins hermetically sealed using high integrity glass ceramic seals. |
| ENCAPSULATION | Two part loaded resin with excellent thermal, electrical and mechanical properties. |
| CONNECTION | Interfaces with most commercial monitoring instrumentation, via a MIL standard 6 pin receptacle. |



PROJECTING 2 ELEMENT FIXED GALVANIC PROBES

| LENGTH | | 3/4" NPT | 1" NPT | 1 1/2" NPT | 2" NPT |
|----------|------|----------|--------|------------|--------|
| (INCHES) | (MM) | | | | |
| 3.25 | 83 | 68300 | 68350 | 68400 | 68450 |
| 3.50 | 89 | 68301 | 68351 | 68401 | 68451 |
| 3.75 | 95 | 68302 | 68352 | 68402 | 68452 |
| 4.00 | 102 | 68303 | 68353 | 68403 | 68453 |
| 4.25 | 108 | 68304 | 68354 | 68404 | 68454 |
| 4.50 | 114 | 68305 | 68355 | 68405 | 68455 |
| 4.75 | 121 | 68306 | 68356 | 68406 | 68456 |
| 5.00 | 127 | 68307 | 68357 | 68407 | 68457 |
| 5.25 | 133 | 68308 | 68358 | 68408 | 68458 |
| 5.50 | 140 | 68309 | 68359 | 68409 | 68459 |
| 5.75 | 146 | 68310 | 68360 | 68410 | 68460 |
| 6.00 | 152 | 68311 | 68361 | 68411 | 68461 |
| 6.25 | 159 | 68312 | 68362 | 68412 | 68462 |
| 6.50 | 165 | 68313 | 68363 | 68413 | 68463 |
| 6.75 | 171 | 68314 | 68364 | 68414 | 68464 |
| 7.00 | 178 | 68315 | 68365 | 68415 | 68465 |
| 7.25 | 184 | 68316 | 68366 | 68416 | 68466 |
| 7.50 | 191 | 68317 | 68367 | 68417 | 68467 |
| 7.75 | 197 | 68318 | 68368 | 68418 | 68468 |
| 8.00 | 203 | 68319 | 68369 | 68419 | 68469 |
| 8.25 | 210 | 68320 | 68370 | 68420 | 68470 |
| 8.50 | 216 | 68321 | 68371 | 68421 | 68471 |
| 8.75 | 222 | 68322 | 68372 | 68422 | 68472 |
| 9.00 | 229 | 68323 | 68373 | 68423 | 68473 |
| 9.25 | 235 | 68324 | 68374 | 68424 | 68474 |
| 9.50 | 241 | 68325 | 68375 | 68425 | 68475 |
| 9.75 | 248 | 68326 | 68376 | 68426 | 68476 |
| 10.00 | 254 | 68327 | 68377 | 68427 | 68477 |
| 10.25 | 260 | 68328 | 68378 | 68428 | 68478 |
| 10.50 | 267 | 68329 | 68379 | 68429 | 68479 |
| 10.75 | 273 | 68330 | 68380 | 68430 | 68480 |
| 11.00 | 279 | 68331 | 68381 | 68431 | 68481 |
| 11.25 | 286 | 68332 | 68382 | 68432 | 68482 |
| 11.50 | 292 | 68333 | 68383 | 68433 | 68483 |
| 11.75 | 298 | 68334 | 68384 | 68434 | 68484 |
| 12.00 | 305 | 68335 | 68385 | 68435 | 68485 |
| 12.25 | 311 | 68336 | 68386 | 68436 | 68486 |

STANDARD CARBON STEEL/BRASS REPLACEMENT ELEMENTS (SET OF 2) PART NUMBER 63074