INDUSTRIAL pH AND ORP ELECTRODES

- √ *Range 0.00 ... 14.00 pH ; +/- 2000 mV for ORP*
- √ *Improve measurement accuracy ± 0.01 pH*
- √ *Self-cleaning, abrasion free*
- √ *Operating pressure… ÷100 psig*
- √ *Operating temperature 0 ÷ 70 / ÷ 100°C, with CPVC / PVDF material*

MICROSYST offers several industrial combination pH and ORP electrodes, made in USA. They are with quick disconnect BNC connectors. The electrodes have a flat measuring surface, built into the electrode's body is a sealed, gel-filled double junction reference design. This design provides an extra barrier against reference side contamination.

Industrial pH and ORP electrodes find application for measuring and control pH for waste water or different technologies process, lime slurries, emulsions, gas wet scrubbers, oily waste water, sugar refining, flocculant coagulation and many more.

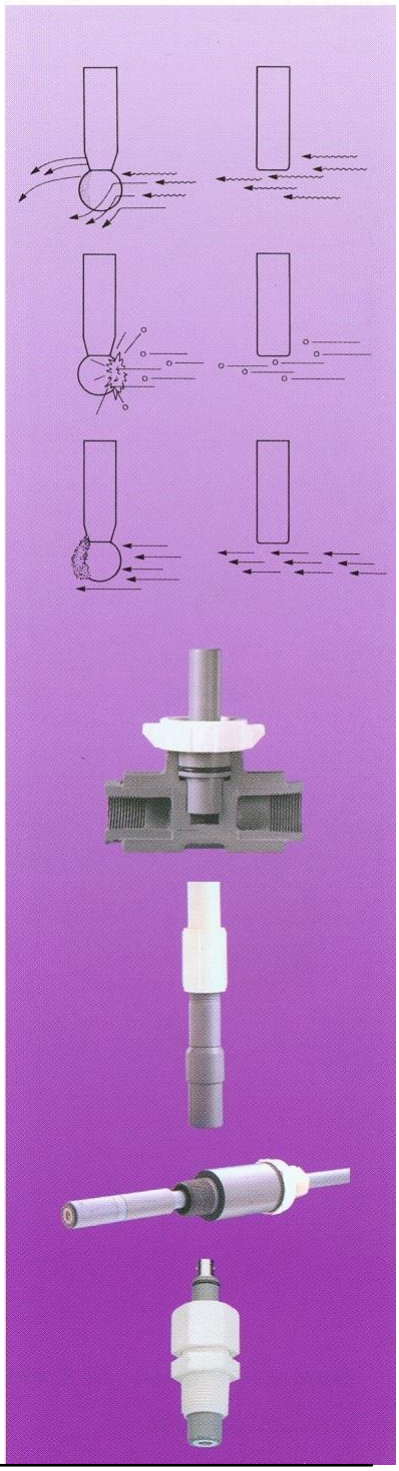
◊ ***Industrial electrodes predominantly***

Self-cleaning operation – by the simple spherical electrodes, downstream side is shield from flow, coating forms on this "dead" flow area. When the electrode's flat measuring surface exposed to turbulent flow, the resulting scrubbing action provides a self-cleaning effect in most application.

Abrasion-free operation - by the simple spherical electrodes, particles impinge on upstream side causing abrasion, calibration shift and short life. Particles sweep by the flat measuring surface to minimize abrasion and extend electrode life. Also, the electrode's non-protruding design virtually eliminates electrode breakage.

Viscous material operation – by the spherical electrode downstream side is shielded from flow, old sample is not displaced. Viscous materials flow by the electrode's flat measuring surface in shear. Flow in shear causes new material to uniformly displace the old material. Having fresh material at the electrode's surface is essential for measurement accuracy.

◊ ***Electrode mounting choices***



Side stream (By-Pass) line mounting - Measurement in ¾" side stream lines. Side stream mounting are particularly useful in applications involving oily coatings, low suspended solids content or moderately viscous materials. Side stream mounting hardware allows the velocity past the electrode to be controlled in a predictable manner. In the ¾" flow cell's restricted ¼" flow channel each GPM flow provides a 2ft/sec velocity past the flat electrode's sensing surface. Flow rates of 3 to 5 GPM provide adequate cleaning velocities in water weight applications. Exact control of flow rates is not required.

Submersion mounting – Measurement in tanks, flumes, and sewer lines are conveniently made with the Submersion system. It is well suited for applications with high suspended solids or where flocculation operations require low velocities. It is also useful for coating problems in tanks which have high agitation. Where only low velocities are present and coating is a problem, the electrode can be mounted at a 45 degree angle facing into the flow so as to obtain increased scrubbing action across the measuring surface. In certain application it may necessary to install a small circulating pump and use the Side Stream unit to archive the needed self-cleaning action.

Insertion mounting – The Insertion Assembly allows pH measurement to be made in pressurized tanks and main lines without the need for system shutdown for electrode maintenance. Its adjustable insertion depth allows it to be positioned in a turbulent flow region so as to operate in the self-cleaning mode. In abrasive applications, the electrode is usually positioned even with the pipe wall. It is well suited for measurements in liquids with high suspended soils and for measurements in viscous liquids. A ball valve, packing gland arrangement allows the electrode to be installed and removed from the pressurized system without shutting the system down. The special electrodes used in the Insertion Assembly allow it to be mounted in any position; for example, through the bottom of a tank with its measuring surface facing upwards.

In-line mounting – This model is ideal for replacing existing 3/4 "threaded electrodes. They are useful in piping systems where flow can be shut off for electrode maintenance and where flow rates match the application's needs; for example, turbulent flow is needed in self-cleaning applications. A simple, re- usable ¾" MNPT gland is used to mount the electrode in mating openings.

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