Conductivity Cells & Cell Holders

Conductivity Cells

Lisle-Metrix Ltd. has been supplying conductivity measuring systems for use in nuclear power plants for over 25 years. Our designs are based on years of experience and knowledge. Our systems can be designed for new installations as well as custom designed to replace legacy instruments that are currently in the field.

All conductivity cells are designed and manufactured under our CSA Z299.2 quality assurance program. Canadian Registration Numbers (CRN) are obtained from the Technical Standards and Safety Authority (TSSA) when required.

A conductivity cell is comprised of two measuring circuits. The conductivity cell or electrodes by itself are responsible for measuring the specific electrolytic conductivity on the solution. The electrodes are normally comprised of two metallic plates, firmly spaced at a predetermined distance apart. The cell constant is a function of the exposed area of the plates and the separation distance. The cell constant is determined by the transmitter or controller being used, and the conductivity range to be measured. When measuring a solution with low conductivity like ultra pure water, a low cell constant (large electrodes placed close together) is used. When measuring a solution with a high conductivity like sea water, a high cell constant (small electrodes placed far apart) is used.

The second measuring circuit in a conductivity cell is the temperature sensor. Due to the fact that electrolytic conductivity is temperature dependant, the readings must be temperature compensated in order to achieve usable readings. The conductivity of a solution varies by approximately 2% for a 1 degree change in temperature. The temperature compensation is accomplished with the electronics inside the conductivity transmitter or controller.

The maximum service ratings for a conductivity cell are based on the material used for its construction. Normally requirements are: design pressures up to 2100psi(g) and design temperatures up to 100°C. Higher values are available upon request.

Lisle-Metrix holds a certificate of authorization from TSSA which allows us to design and manufacture our conductivity cells meeting the requirements of CSA N285.0 and B51. Cells can be registered with TSSA as a category F fitting as Class 1,2,3, & 6.

Lisle-Metrix has extensive experience in the qualification of conductivity cells. Cells can be fully qualified to ensure that they will perform in the most rigorous environments.

Conductivity cells can be mounted directly inline or can be mounted through a hot tap valve which allows the removal of the cell while the line is under pressure.

Contact Lisle-Metrix for your custom designed conductivity solution.

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Conductivity Cell Holders

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All conductivity cell holders are designed and manufactured under our CSA Z299.2 quality assurance program. Canadian Registration Numbers (CRN) are obtained from the Technical Standards and Safety Authority (TSSA) when required.

As its name suggests a conductivity cell holder is designed to hold a conductivity cell. The holder is permanently installed inline and the cell is installed into it.

The maximum service ratings for a conductivity cell holders are based on the material used for its construction. Normally requirements are: design pressures up to 2100psi(g) and design temperature sup to 100°C. Higher values are available upon request.

Lisle-Metrix holds a certificate of authorization from TSSA which allows us to design and manufacture our conductivity cells meeting the requirements of CSA N285.0 and B51. Holders can be registered with TSSA as a category A fitting as Class 1,2,3, & 6.

Lisle-Metrix has extensive experience in the qualification of conductivity cell holders. Holders can be fully qualified to ensure that they will perform in the most rigorous environments.

Conductivity cell holders can be a simple pipe fitting or can be a hot tap valve allowing the removal of the cell while the line is under pressure.

Contact Lisle-Metrix for your custom designed conductivity solution.

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