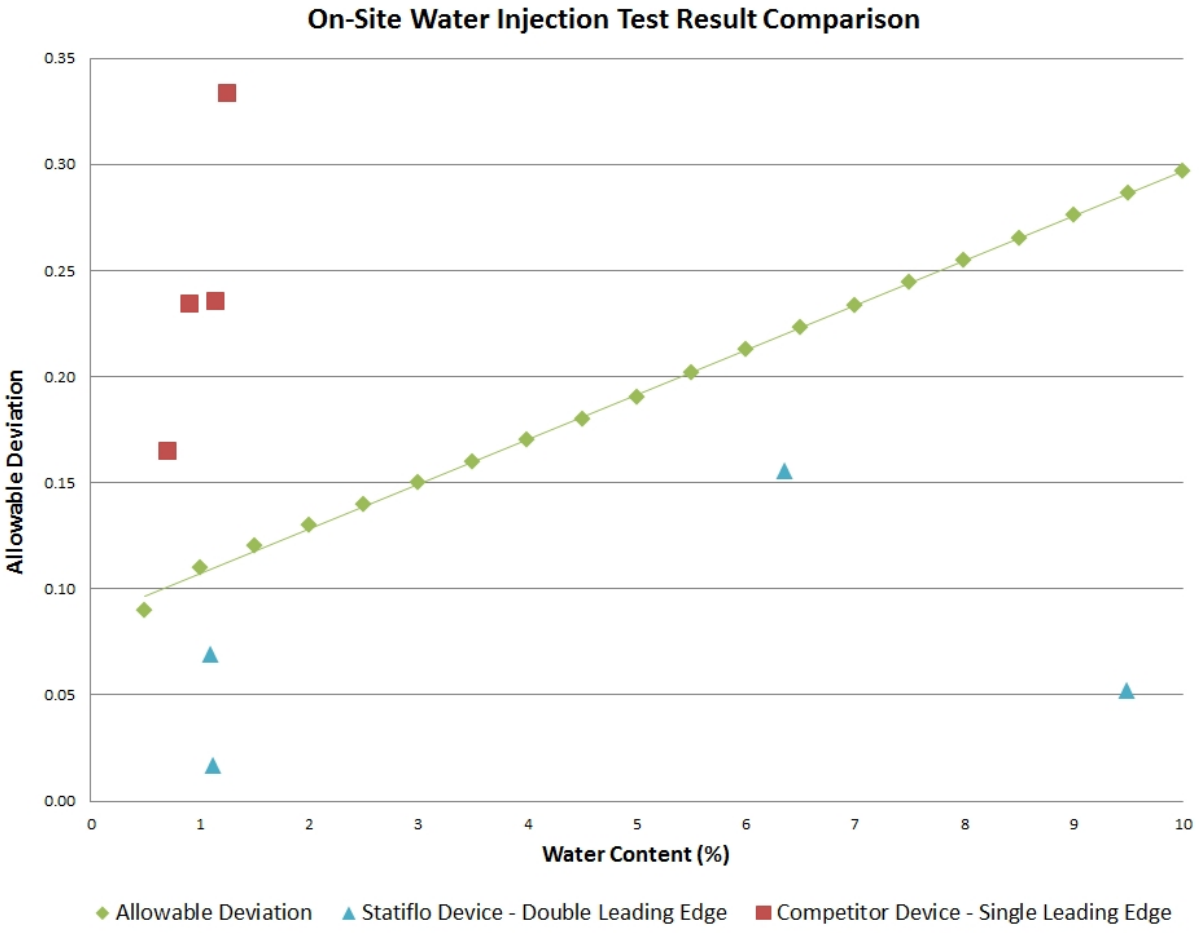
Thank you to World Pipelines for their great Smart Custody Transfer Decisions article, which highlights some of the reasons why customers all over the world prefer the Statiflo Dual Leading Edge mixer design for their custody transfer, oil metering and fiscal measurement applications. For all enquiries please contact sales@statiflo.co.uk .

Original article link: Smart Custody Transfer Decisions

Statiflo's dual leading edge custody transfer static mixers are used extensively in the oil industry and have been specifically designed to meet the rigorous standards for automatic inline pipeline sampling in accordance with both API 8.2 and ISO 3171standards. In order to achieve a C_1/C_2 ratio above 0.9 the design of a custody transfer static mixer must ensure that the water is adequately and evenly dispersed within the oil so that a representative sample can be taken at the mixer discharge for water in oil analysis.

The unique design of Statiflo Series 150 custody transfer mixers features a STM element with dual leading edges, which has proven operational benefits over a single leading edge alternative. If a single leading edge design is used it is possible that the fluid can miss the first leading edge and be channeled down one section of the static mixer. If this occurs the first mixing element is ineffective meaning that any mixing is performed only by the next two mixing elements resulting in the oil and water not being disbursed evenly. The Statiflo dual leading edge design not only ensures effective mixing at the point of the leading edges but also forces the oil/water mixture into the centre of the pipe within the first half of the first mixing element. From there it is distributed evenly into the second half of the first element and then lastly into the second element allowing highly efficient mixing.

Statiflo's dual leading edge custody transfer mixers have been independently tested using state-of-the-art techniques in a LIF (laser induced fluorescence) test rig. These wet lab tests demonstrate, the dual leading edge mixer design provides uniform mixing with low coefficient of variation (CoV). This means that the mixers ensure water droplets are equally dispersed in the oil so that samples taken are guaranteed to be representative of the total fluid composition.



The graph shows a comparison between Statiflo's Dual Leading Edge Static Mixer and an alternative single leading edge static mixer. The ISO3171/API 8.2 standards provide an allowable deviation (green line on the graph) between the injected water volume and the downstream measured water volume. The graph shows that the deviation for a single leading edge static mixer is well above the allowable limit but the Statiflo dual leading edge custody transfer mixer is well within allowable limits for a wide range of water volumes.

Each mixer is custom designed to match exact installation requirements in terms of construction materials, painting, length, auxiliary connections, pressure and temperature. Offering a flexible solution, the mixer housings can be mounted in any orientation and can further accommodate additional connections, length and reducers. Of course the mixers require no direct power, are maintenance free, and offer excellent return on investment. The dual leading edge design ensures excellent flow division and radial mixing for high mixing performance With the mixing elements welded to the mixer housing, the mixers further offer a confident solution with superior reliability – an important factor for reducing potential downtime.

Statiflo's experience in mixer design meets the needs of the modern oil and gas industry. Its custody transfer static mixers offer a reliable solution conforming with latest pipeline sampling standards. Statiflo believe that its mixers are the right choice for customers with pipeline applications where precise measurements are required for fiscal purposes.