# SHEAR FORCE MICROSENSOR

## Abstract

The invention concerns a micro-dimensioned sensor for measuring the shear force, both in magnitude and direction, at the surface of a solid boundary as a fluid flows over that boundary. The sensor comprises a micro-mechanical capacitor-transducer system including a micro-dimensioned floating upper plate above a fixed lower plate supported on a substrate. The floating upper plate is mounted and held over said substrate by a number of zig-zag form supporting arms. The flow passing over the upper plate displaces the upper plate in a downstream direction, which results in a measurable change of the capacitance in the capacitor-transducer system. The direction and magnitude of the shear forces can then be obtained from the measured capacitance through specially designed electrical or electronic circuit means.

Fig. 2