One type of vibrating meter uses a single loop, serial path flow conduit to measure mass flow. However, the use of a single loop, serial path flow conduit design has an inherent disadvantage in that it is unbalanced and may be affected by external vibrations to a greater extent than other types of meters. A single loop, serial flow Coriolis flow meter has a single curved conduit or loop extending in cantilever fashion from a solid mount. The flow meter must include a rigid structure positioned next to the flow conduit against which the flow conduit can vibrate. The use of the rigid structure can be impractical in many industrial applications.

Another prior art approach uses a dual loop, parallel flow conduit configuration. Dual loop, parallel flow conduit flow meters are balanced and changes in density affect both of the parallel flow conduits substantially evenly. The parallel flow conduits are driven to oscillate in opposition to one another with the vibrating force of one flow conduit canceling out the vibrating forces of the other flow conduit. Therefore, in many applications, a dual loop parallel flow conduit configuration is desirable. However, because the flow is split between two parallel flow conduits, each of the flow conduits is smaller than the connected pipeline. This can be problematic for low flow applications. Specifically, the smaller flow conduits required in dual loop, parallel flow conduit flow meters are more prone to plugging and the manifold used to split the flow between the flow conduits results in a higher pressure drop.

The above mentioned problems can be solved by using a dual loop, serial flow path flow meter. The dual loop, serial flow path flow meter combines the advantages of the single loop flow meter and the dual loop, parallel path flow meter.

FIG. 1 shows a portion of a prior art dual loop, serial flow path flow meter 100. The flow meter 100 is shown and described in more detail in United States Patent 6,044,715, assigned on its face to the present applicants, and incorporated herein by reference for all that it teaches. The flow meter 100 includes a single flow conduit 101, which is contained within a housing 102. The flow conduit 101 includes two loops 103, 104, which lie in planes that are parallel to one another. The loops 103, 104 vibrate in response to a signal applied by the driver 110. Pick-offs 111, 111' can detect the motion of the loops 103, 104 to determine various fluid characteristics. The loops 103, 104 are joined together with a crossover section 105. The crossover section 105 joins the two loops to form the continuous flow conduit 101. The crossover section 105 along with

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FIG. 1 shows a portion of a prior art dual loop, serial flow path flow meter 100. The flow meter 100 is shown and described in more detail in United States Patent 6,332,367, assigned on its face to the present applicants, and incorporated herein by reference for all that it teaches. The flow meter 100 includes a single flow conduit 101, which is contained within a housing 102. The flow conduit 101 includes two loops 103, 104, which lie in planes that are parallel to one another. The loops 103, 104 vibrate in response to a signal applied by the driver 110. Pick-offs 111, 111' can detect the motion of the loops 103, 104 to determine various fluid characteristics. The loops 103, 104 are joined together with a crossover section 105. The crossover section 105 joins the two loops to form the continuous flow conduit 101. The crossover section 105 along with