

The invention claimed is:

1. A fluid flow control apparatus for use in an oilfield tubular positioned in a wellbore extending through a subterranean formation, the oilfield tubular for flowing fluid therethrough, the fluid having a density which changes over time, the apparatus comprising:

a tool housing;

a valve assembly positioned in the tool housing and having a valve housing with at least one inlet and at least one outlet; and

a rotatable fluid diverter positioned in the tool housing and adjacent the exterior of the valve housing, the fluid diverter rotated about a longitudinal axis of the fluid diverter by change in the fluid diverter buoyancy in response to change in the fluid density, the fluid diverter rotatable to restrict fluid flow through at least one valve inlet in response to change in the fluid density,

wherein the fluid diverter rotates to a plurality

of rotational angles, and wherein restriction of the fluid flow is related to the rotational angle of the fluid diverter; and

further comprising a second valve assembly

having a second valve housing, each valve housing having at least one inlet and at least one outlet, the fluid diverter in the closed position operable to restrict flow into inlets of both of the valve assemblies.

2. The apparatus as in claim 1 wherein the fluid diverter is of a preselected

density and is buoyant in a fluid of a preselected density.

3. The apparatus as in claim 1 wherein the fluid diverter is movable between a first and a second position, and wherein the fluid diverter is biased towards a first position by a biasing member.

4. The apparatus as in claim 3 wherein the biasing member is a counterweight.

5. The apparatus as in claim 4 wherein the counterweight has a density different from the density of the fluid diverter.

6. The apparatus as in claim 5 wherein the counterweight is operably connected to the fluid diverter.

7. The apparatus as in claim 3 wherein the fluid diverter has a density greater than the fluid density during operation of the apparatus, the biasing mechanism offsetting the diverter density and allowing the diverter to be actuated by density change in the fluid.

8. The apparatus as in claim 1 further comprising a self-orienting valve assembly which is weighted for orienting the valve assembly in the wellbore.

9. The apparatus as in claim 8 wherein the self-orienting valve assembly utilizes gravity to orient the valve assembly.

10. The apparatus as in claim 8 further comprising a sealing agent to maintain the valve assembly in an orientation.

11. The apparatus as in claim 10 wherein the sealing agent comprises a swellable elastomer.

12. The apparatus as in claim 1, further comprising an inflow control device,

and wherein the valve inlet is in fluid communication with the inflow control device.