the interior surface and apart from the first port.

7. The well device of claim 6, the side perimeter surface operable to direct flow from the second port to rotate about the first port.

8. The well device of claim 7, a greatest distance between the opposing end surfaces is smaller than a largest dimension of the opposing end surfaces.

9. The well device of claim 8, wherein the first port comprises an outlet of the interior chamber and the second port comprises an inlet of the interior chamber.

10. The well device of claim 1, wherein the fluid diode comprises a cylindroidal chamber for receiving flow through a chamber inlet and directing the flow to a chamber outlet.

11. The well device of claim 10, the cylindroidal chamber promotes a rotation of the flow about the chamber outlet and a degree of the rotation is based on a characteristic of inflow through the inlet.

12. The well device of claim 11, a greatest axial dimension of the cylindroidal chamber is smaller than a greatest diametric dimension of the cylindroidal chamber.

13. A well device for installation in a wellbore in a subterranean formation to communicate flow with the subterranean formation when the well device is installed in the wellbore, the well device comprising: a well device housing defining an interior and an annular exterior of the well device; a fluid diode positioned in a flow path, the flow path extending through the well device housing and between the interior of the well device and the exterior of the well device to receive flow between the interior and the exterior, the fluid diode comprising: an interior surface that defines an interior chamber, the interior surface includes a side perimeter surface and opposing end surfaces, a greatest distance between the opposing end surfaces is smaller than a largest dimension of the opposing end surfaces; a first port through one of the end surfaces; and a second port through the interior surface and apart

from the first port, the side perimeter surface operable to direct flow from the second port to rotate about the first port.

14. The well device of claim 13, wherein the fluid diode resides in a flow path from the interior of the well device to the exterior of the well device to receive a flow of injection fluid.

15. The well device of claim 13, wherein the fluid diode resides in a flow path to the interior of the well device from the exterior of the well device to receive a flow of production fluid.

16. The well device of claim 13, wherein the first port comprises an outlet from the interior chamber and the second port comprises an inlet to the interior chamber.

17. The well device of claim 13, wherein the first port comprises an inlet to the interior chamber and the second port comprises an outlet from the interior chamber.