What is claimed is:

1. A fluid flow control device, comprising:
a port;
a rotatable component that rotates about an axis in response to fluid flow from the port; and
a mechanical component disposed on the rotatable component and configured to reduce rotational speed of the rotatable component,
wherein the mechanical component is a top fin positioned on top of the rotatable component at a pitch, and wherein the top fin generates a downward force on the rotatable component in response to an increase in the rotational speed of the rotatable component.

2. The fluid flow control device of claim 1, wherein the mechanical component is a protrusion that extends radially outwards from a first position towards a second position in response to an increase in rotational speed of the rotatable component, and wherein the protrusion is configured to engage an element of the fluid flow control device while the protrusion is in the second position to reduce the rotational speed of the rotatable component.

3. The fluid flow control device of claim 2, further comprising a spring that is coupled to the protrusion, wherein the spring is in a natural state while the protrusion is in the first position, and wherein the spring is in a compressed state while the protrusion is in the second position.

4. The fluid flow control device of claim 3, wherein the spring is configured to shift the protrusion from the second position to the first position while the rotational speed of the rotatable component is below a threshold speed.

5. The fluid flow control device of claim 1, wherein the mechanical component is a fin that extends outwards from the rotatable component, and wherein the fin has a variable pitch that is based on the rotational speed of the rotatable component.

6. The fluid flow control device of claim 5, wherein the fin is configured to rotate from having a first pitch to having a second pitch in response to an increase in the rotational speed of the rotatable component.

7. A fluid flow control device, comprising:

a port;

a rotatable component that rotates about an axis in response to fluid flow from the port;

a chamber disposed within the fluid flow control device and containing an element that moves away from the axis in response to a rotational acceleration of the rotatable component, wherein movement of the element away from the axis increases a radius of gyration of the rotatable component; and

a top fin positioned on top of the rotatable component at a pitch, and wherein the top fin generates a downward force on the rotatable component in response to an increase in the rotational speed of the rotatable component.

8. The fluid flow control device of claim 7, wherein the element is a weight that shifts from a first position in the chamber to a second position in the chamber that is further away from the axis relative to the first position in response to a rotational acceleration of the rotatable component.

9. The fluid flow control device of claim 8, further comprising a spring that is in a natural state while the weight is in the first position and is in a compressed state while the weight is in a second position.

10. The fluid flow control device of claim 9, wherein the spring is configured to shift the weight from the second position to the first position while the rotational acceleration of rotatable component is below a threshold rate.

11. The fluid flow control device of claim 7, wherein the element is a fluid that partially fills the chamber, and wherein the fluid flows from a first region of the chamber to a second region of the chamber further away from the axis relative to the first region in response to the rotational acceleration of the rotatable component.

12. A method to reduce overspeed of a fluid flow control device, the method comprising:
flowing fluid through a port of a fluid flow control device onto a rotatable component of the fluid flow control device:
rotating the rotatable component about an axis of rotation; and
in response to an increase to a rotational speed of the rotatable component, generating a downward force by a top fin positioned on top of the rotatable component on the rotatable component to reduce the rotational speed of the rotatable component.

13. The method of claim 12, further comprising increasing a flow rate of the fluid out of the port to reduce the rotational acceleration of the rotatable component.

14. The method of claim 12, further comprising in response to a rotational acceleration of the rotatable component, increasing a radius of gyration of the rotatable component to reduce the rotational acceleration of the rotatable component.

15. A method to reduce overspeed of a fluid flow control device, the method comprising:
flowing fluid through a port of a fluid flow control device onto a rotatable component of the fluid flow control device;
rotating the rotatable component about an axis of rotation; and
in response to the rotatable component rotating at a speed that is greater than a threshold speed, engaging a mechanical component of the rotatable component to reduce the speed of the rotatable component,
wherein the mechanical component is a top fin positioned on top of the rotatable component, and wherein the top fin generates a downward force on the rotatable component in response to an increase in the rotational speed of the rotatable component to reduce the speed of the rotatable component.

16. The method of claim 15, wherein the mechanical component is a protrusion that extends radially outwards from the rotatable component, and wherein engaging the mechanical component comprises shifting the protrusion radially outwards from a first position towards a second position to engage an element of the fluid flow control device to reduce the speed of the rotatable component.

17. The method of claim 15, wherein the mechanical component is a fin that extends outwards from the rotatable component, wherein the fin has a variable pitch that is based on the speed of the rotatable component, and wherein engaging the mechanical component comprises rotating the fin from having a first pitch to having a second pitch to reduce the speed of the rotatable component.

18. The method of claim 15, further comprising increasing a flow rate of the fluid flowing through the port to reduce the speed of the rotatable component.

19. The method of claim 18, further comprising shifting an element disposed within a chamber of the fluid flow control device away from the axis of rotation to increase the radius of gyration of the rotatable component.