We claim:

1. A hemostasis valve body, comprising:

a first surface and a second surface opposite the first surface;

an edge extending between an outer perimeter of the first surface and an outer perimeter of the second surface;

a plurality of helical slits at a center of the hemostasis valve body that traverse the first surface to the second surface, wherein the helical slits provide a seal around a medical device during an insertion of the medical device into a blood vessel; and

a pair of longitudinal cuts, each longitudinal cut extending from the first surface partially through the hemostasis valve body to a depth short of the second surface for a portion of a length of the respective longitudinal cut or for an entire length of the respective longitudinal cut, wherein the pair of longitudinal cuts facilitates a separation of the hemostasis valve body into two parts during a peel away action, and

wherein each longitudinal cut is spaced from the helical slits such that an interior edge of each longitudinal cut is at a constant distance from a helical slit closest to the interior edge of the longitudinal cut, and wherein the constant distance is maintained through a thickness of the hemostasis valve body extending from the first surface to the second surface.

2. The hemostasis valve body of claim 1, wherein the pair of longitudinal cuts are angled at an angle of rotation that is same as an angle of rotation of the helical slits.

3. The hemostasis valve body of claim 1, wherein each longitudinal cut is positioned on diametrically opposite sides of the hemostasis valve body.

4. The hemostasis valve body of claim 1, wherein each longitudinal cut traverses the first surface to the second surface for a portion of the length of the respective longitudinal cut or for an entire length of the respective longitudinal cut at the edge.

5. The hemostasis valve body of claim 1, further comprising:

a first group of lines formed on the first surface, wherein the first group of lines extend radially outward from the center of the hemostasis valve body; and

a second group of lines formed on the second surface, wherein the second group of lines extend radially outward from the center of the hemostasis valve body.

6. The hemostasis valve body of claim 5, wherein the plurality of helical slits traverse the first group of lines to the second group of lines.

7. The hemostasis valve body of claim 5, wherein the first group of lines are angularly offset from the second group of lines.

8. The hemostasis valve body of claim 1, further comprising a plurality of through holes at a distance from the edge that traverse the first surface to the second surface.

9. The hemostasis valve body of claim 9, wherein each through hole comprises one of round edges, flat edges, and non-symmetric shape.

10. The hemostasis valve body of claim 8, wherein at least some of the plurality of through holes are angularly spaced equally.

11. The hemostasis valve body of claim 10, wherein an angle between adjacent through holes is less than or equal to 25 degrees.

12. The hemostasis valve body of claim 8, wherein the plurality of through holes are sized to accommodate a plurality of posts of an introducer hub.

13. The hemostasis valve body of claim 8, wherein a plurality of posts of an introducer hub are configured to be inserted into the plurality of through holes.

14. The hemostasis valve body of claim 13, wherein the plurality of posts of the introducer hub when inserted into the plurality of through holes keep the hemostasis valve body stretched during a peel away action.

15. The hemostasis valve body of claim 1, wherein the first surface is parallel to the second surface.

16. The hemostasis valve body of claim 1, wherein the first surface and the second surface comprises a planar shape.

17. The hemostasis valve body of claim 1, wherein the first surface comprises one of a conical, tapered, and convex shape.

18. The hemostasis valve body of claim 1, wherein a thickness of the hemostasis valve body is minimum at the center of the hemostasis valve body.

19. The hemostasis valve body of claim 1, wherein the hemostasis valve body comprises one of a disc, cylindrical, and cubic shape.

20. A system for inserting a blood pump into a blood vessel of a patient comprising:

a blood pump; and

an introducer assembly comprising a hub and a sheath,

wherein the hub comprises:

a first wing and a second wing located opposite each other;

a first notch and a second notch located at mid points between the first wing and the second wing; and

a hemostasis valve body, wherein the hemostasis valve body comprises:

a first surface and a second surface opposite the first surface;

an edge extending between an outer perimeter of the first surface and an outer perimeter of the second surface;

a plurality of helical slits at a center of the hemostasis valve body that traverse the first surface to the second surface, wherein the helical slits provide a seal around the blood pump during an insertion of the blood pump into a blood vessel;

a first longitudinal cut; and

a second longitudinal cut,

wherein each of the first longitudinal cut and the second longitudinal cut is spaced from the helical slits,

wherein the first longitudinal cut extends from the first surface partially through the hemostasis valve body to a depth short of the second surface for a portion of a length of the first longitudinal cut or for an entire length of the first longitudinal cut,

wherein the second longitudinal cut extends from the first surface partially through the hemostasis valve body to a depth short of the second surface for a portion of a length of the second longitudinal cut or for an entire length of the second longitudinal cut,

wherein the first longitudinal cut is radially aligned with the first notch and the second longitudinal cut is radially aligned with the second notch,

wherein the first longitudinal cut and the second longitudinal cut facilitate a separation of the hemostasis valve body into two parts during a peel away action, and,

wherein the hemostasis valve body and the sheath are sized to receive the blood pump.

21. A system for inserting a blood pump into a blood vessel of a patient comprising:

a blood pump; and

an introducer assembly comprising a hub and a sheath,

wherein the hub comprises:

a first wing and a second wing located opposite each other;

a first notch and a second notch located at mid points between the first wing and the second wing; and

a hemostasis valve body, wherein the hemostasis valve body comprises:

a first surface and a second surface opposite the first surface;

an edge extending between an outer perimeter of the first surface and an outer perimeter of the second surface;

a plurality of helical slits at a center of the hemostasis valve body that traverse the first surface to the second surface, wherein the helical slits provide a seal around the blood pump during an insertion of the blood pump into a blood vessel;

a first longitudinal cut;

a second longitudinal cut;

wherein the first longitudinal cut extends from the first surface partially through the hemostasis valve body to a depth short of the second surface for a portion of a length of the first longitudinal cut or for an entire length of the first longitudinal cut,

wherein the second longitudinal cut extends from the first surface partially through the hemostasis valve body to a depth short of the second surface for a portion of a length of the second longitudinal cut or for an entire length of the second longitudinal cut,

wherein the first longitudinal cut is radially aligned with the first notch and the second longitudinal cut is radially aligned with the second notch,

wherein the first longitudinal cut and the second longitudinal cut facilitate a separation of the hemostasis valve body into two parts during a peel away action; and

a plurality of through holes at a distance from the edge that traverse the first surface to the second surface,

wherein the hemostasis valve body and the sheath are sized to receive the blood pump, and

wherein the hub comprises a plurality of posts that are configured to be inserted into the plurality of through holes of the hemostasis valve body during operation of the blood pump.