What is claimed is:

1. A valve assembly, the valve assembly comprising:
a valve body defining a flow passage and a body cavity perpendicular to the flow passage;

a bonnet secured to the valve body;

a valve member moveable between an open position and a closed position, the valve member blocking the flow passage in the closed position, and allowing flow through the flow passage in the open position;

a valve stem coupled to the valve member; and

a debris barrier circumscribing the valve stem, the debris barrier comprising a first disk shaped member with a central opening through which the valve stem is inserted and notches that extend radially from the central opening to define petals with ends that abut the valve stem, the debris barrier being a non-sealing member having a pressure of a fluid within the body cavity of the valve body balanced across the debris barrier; wherein

the valve stem has a radially outward facing annular stem sloped surface selectively mated with a radially inward facing annular bore sloped surface to form a metal to metal seal, and wherein the petals of the debris barrier are sized to pass over the stem sloped surface of the valve stem to prevent debris from interfering with the metal to metal seal.

2. The valve assembly according to claim 1, wherein the debris barrier is fixed axially relative to the bonnet and the valve stem moves within the central opening of the debris barrier as the valve member moves between the open position and the closed position.

3. The valve assembly according to claim 1, further comprising a retainer ring, the retainer ring being ring shaped and securing an annular portion of the debris barrier to the bonnet.

4. The valve assembly according to claim 1, wherein:

the debris barrier has a plurality of barrier holes located through the debris barrier and spaced around a circumference of the debris barrier;

the bonnet has a plurality of bonnet holes, the bonnet holes extending axially into the bonnet; and

the valve assembly further comprises a plurality of securing members, each securing member passing through one of the barrier holes and into one of the bonnet holes, securing the debris barrier to the bonnet.

5. The valve assembly according to claim 1, further comprising a second disk shaped member located axially above the first disk shaped member and spaced axially apart from the first disk shaped member.

6. The valve assembly according to claim 1, further comprising a second disk shaped member located axially above the first disk shaped member and adjacent to the first disk shaped member, wherein second petals of the second disk shaped member are rotationally offset from the petals of the first disk shaped member.

7. The valve assembly according to claim 6, wherein the first disk shaped member and the second disk shaped member have a connector feature to mate the first and second disk shaped member and to restrict relative rotational movement between first disk shaped member and the second disk shaped member.

8. The valve assembly according to claim 1, further comprising a plurality of additional disk shaped members, each of the plurality of additional disk shaped members circumscribing the valve stem.

9. The valve assembly according to claim 1, wherein the ends of the petals are deflected to a direction parallel with an axis of the valve stem.

10. The valve assembly according to claim 1, wherein the petals are separated by a notch, and wherein a side of each petal is spaced apart from the sides of each adjacent petal when the debris barrier is in a relaxed state.

11. A valve assembly, the valve assembly comprising:

a valve body defining a flow passage and a body cavity perpendicular to the flow passage;

a bore extending from an exterior of the valve body through a bonnet of the valve assembly and into the body cavity;

a valve member moveable between an open position and a closed position, the valve member blocking the flow passage in the closed position, and allowing flow through the flow passage in the open position;

a valve stem coupled to the valve member, the valve stem extending through the bore, for moving the valve member between the closed position to the open position;

a stem packing circumscribing a portion of the valve stem, and located in the bore; and

a planar debris barrier in the valve body and circumscribing the valve stem, the debris barrier comprising petals with inner corners that are in contact with the valve stem, the debris barrier being a non-sealing member having a pressure of a fluid within the body cavity of the valve body balanced across the debris barrier; wherein

the valve stem has a radially outward facing annular stem sloped surface selectively mated with a radially inward facing annular bore sloped surface to form a metal to metal seal, and wherein the petals of the debris barrier are sized to pass over the stem sloped surface of the valve stem to prevent debris from interfering with the metal to metal seal.

12. The valve assembly according to claim 11, further comprising at least one additional disk shaped member, each of the additional disk shaped members circumscribing the valve stem.

13. A debris barrier system for a valve assembly, the debris barrier system comprising:
a first disk shaped member;

a central opening in the first disk shaped member, the central opening defined by a plurality of petals with notches being located between successive of the plurality of petals;

a valve stem extending through the central opening, the central opening being sized to accept the valve, with the petals urged apart by the valve stem with inner ends of the petals oriented generally axially along the valve stem; wherein

the notches define a fluid flow path from a lower side of the debris barrier to an upper side of the debris barrier equalizing an operating pressure of the valve assembly across the debris barrier; and

the valve stem has a radially outward facing annular stem sloped surface selectively mated with a radially inward facing annular bore sloped surface to form a metal to metal seal, and wherein the petals of the debris barrier are sized to pass over the stem sloped surface of the valve stem to prevent debris from interfering with the metal to metal seal.

14. The debris barrier system according to claim 13, wherein in a relaxed state, sides of each petal are spaced apart from sides of adjacent petals.

15. The debris barrier system according to claim 13, wherein the barrier further comprises a plurality of barrier holes located through the barrier and spaced around a circumference of the barrier, the plurality of barrier holes sized and spaced to accept securing members that secure the barrier to a bonnet of the valve assembly.

16. The debris barrier system according to claim 13, further comprising a retention means selectively retaining the barrier with the valve assembly, the retention means selected from a group consisting of adhesive, snap ring and gland nut.

17. The debris barrier system according to claim 13, further comprising a second disk shaped member, wherein second petals of the second disk shaped member rotationally offset from the petals of the first disk shaped member.

18. The debris barrier system according to claim 17, wherein the first disk shaped member and the second disk shaped member have a connector feature that mates the first and second disk shaped member to restrict relative rotational movement between the first disk shaped member and the second disk shaped member.