What is claimed is:

1. A capacitive manometer comprising:

(a) a diaphragm including a common electrode and (b) an electrode structure including a center electrode and ring electrode, wherein the diaphragm is movable relative to the electrode structure between (i) a zero position when the pressure on each side of the diaphragm is the same and (ii) a maximum differential position when the maximum measurable differential pressure is applied to the diaphragm, and

a diaphragm support structure arranged so as to support the diaphragm so that the diaphragm is constrained relative to the electrode structure, and the common electrode is spaced from and axially aligned with the center and ring electrodes relative to an alignment axis of the manometer; and

an electrode support structure arranged to support the electrode structure and comprising a compliant ring including at least three flexures integrally formed in the ring and angularly spaced around the alignment axis;

wherein the electrode support is clamped in place relative to the diaphragm at the locations of the compliant ring flexures.

2. A capacitive manometer according to claim 1,wherein the flexures are equiangularly spaced around the compliant ring.

3. A capacitive manometer according to claim 2, wherein the ring includes slots formed in the ring so as to form the flexures between adjacent pairs of slots.

4. A capacitive manometer according to claim 3, wherein the slots are formed in the axial direction of the spring, and are of equal length.

5. A capacitive manometer according to claim 1, wherein the electrode support structure includes a spring configured to apply an axial force on the ring at the location of each of the flexures.

6. A capacitive manometer according to claim 5, wherein the spring is a wave spring.

7. A capacitive manometer according to claim 6, wherein the wave spring is configured to apply axial force through the electrode structure at the locations of each of the flexures.

8. A capacitive manometer according to claim 7, wherein the electrode support structure further includes a pair of support pads for supporting the electrode structure within the electrode support structure, wherein the wave spring applies axial force through the support pads and the electrode structure at the locations of each of the flexures.

9. A capacitive manometer according to claim 6, wherein the electrode support structure includes a support substrate arranged so as to support the ring and center electrodes.

CLAIMS

1. A capacitive manometer comprising:

(a) a diaphragm including a common electrode and (b) an electrode structure including a center electrode and ring electrode, wherein the diaphragm is movable relative to the electrode structure between (i) a zero position when the pressure on each side of the diaphragm is the same and (ii) a maximum differential position when the maximum measurable differential pressure is applied to the diaphragm, and

a diaphragm support structure arranged so as to support the diaphragm so that the diaphragm is constrained relative to the electrode structure, and the common electrode is spaced from and axially aligned with the center and ring electrodes relative to an alignment axis of the manometer; and

an electrode support structure arranged to support the electrode structure and comprising a compliant ring including at least three flexures integrally formed in the ring and angularly spaced around the alignment axis;

wherein the electrode support is clamped in place relative to the diaphragm at the locations of the compliant ring flexures.

2. A capacitive manometer according to claim 1,wherein the flexures are equiangularly spaced around the compliant ring.

3. A capacitive manometer according to claim 2, wherein the ring includes slots formed in the ring so as to form the flexures between adjacent pairs of slots.

4. A capacitive manometer according to claim 3, wherein the slots are formed in the axial direction of the spring, and are of equal length.

5. A capacitive manometer according to claim 1, wherein the electrode support structure includes a spring configured to apply an axial force on the ring at the location of each of the flexures.

6. A capacitive manometer according to claim 5, wherein the spring is a wave spring.

7. A capacitive manometer according to claim 6, wherein the wave spring is configured to apply axial force through the electrode structure at the locations of each of the flexures.

8. A capacitive manometer according to claim 7, wherein the electrode support structure further includes a pair of support pads for supporting the electrode structure within the electrode support structure, wherein the wave spring applies axial force through the support pads and the electrode structure at the locations of each of the flexures.

9. A capacitive manometer according to claim 6, wherein the electrode support structure includes a support substrate arranged so as to support the ring and center electrodes.