The invention claimed is:

1. A method comprising:

assembling longitudinal seals between a first half-shell stator component and a second half-shell stator component along a first longitudinally extending face of the first half-shell stator component and a second longitudinally extending face of the second half-shell stator component to form a seal between the first and second half-shell stator components, wherein the first and second half-shell stator components define a plurality of pumping chambers; and

assembling annular seals that are separate from the longitudinal seals between a first end stator component at a first longitudinal end face of the first half-shell stator component and between a second end stator component at a second longitudinal end face of the second half-shell stator components to form a seal between the first and second end stator components and the first and second half-shell stator components, wherein the longitudinal seals have end portions which abut against the annular seals to seal therebetween and the first and second half-shell stator components have formations that resist movement of the end portions away from the annular seals when the end portions are compressed between the first and second half-shell stator components.

2. The method of claim 1, wherein the first and second longitudinally extending faces of the first and second half-shell stator components form therebetween respective longitudinal channels for locating the longitudinal seals, and wherein the formations are formed by enlarged end portions of the longitudinal channels which are configured for receiving enlarged end portions of the longitudinal seals.

3. The method of claim 2, wherein the enlarged end portions of the longitudinal channels and the enlarged end portions of the longitudinal seals taper laterally outwardly from middle portions thereof.

4. The method of claim **1**, wherein the end portions of the longitudinal seals are configured such that, when compressed during assembly, the end portions of the longitudinal seals deform against the annular seals to extend a sealing surface therebetween.

5. The method of claim **1**, wherein the end portions of the longitudinal seals comprise longitudinal protrusions having a recess therebetween shaped to complement a cross-section of a respective annular seal of the annular seals so that, when assembled, a portion of the annular seal is located in the recess and a sealing surface is extended between the seals.

6. The method of claim **1**, wherein the first half-shell stator component comprises a first end face and the second half-shell stator component comprises a second end face, wherein the first and second end faces, when assembled together, form annular channels for locating the annular seals, and the annular channels extend through the end portions of the longitudinal channels.

7. The method of claim **1**, wherein the longitudinal channels are recessed into the longitudinally extending faces of the first and second half-shell stator components and longitudinal walls upstand from the recessed longitudinal channels and are generally flush with the longitudinally extending faces, and wherein the longitudinal seals fit around the longitudinal walls such that, when compressed, the longitudinal walls prevent the longitudinal seals from the deforming away from the annular seals.

8. The method of claim **1**, wherein, when located in position in the first and second half-shell stator components and prior to compression, a gap exists between the longitudinal seals and the formations of the first and second half-shell components into which the longitudinal seals can expand during compression.

9. A multi-stage vacuum pump comprising:

a first half-shell stator component comprising a first longitudinally extending face;

a second half-shell stator component comprising a second longitudinally extending face, wherein the first and second half-shell stator components together define a plurality of pumping chambers and are assembled together along the first and second longitudinally extending faces;

a first end stator component;

a second end stator component, wherein the first and second end stator components are assembled at respective longitudinal end faces of the first and second half-shell stator components;

longitudinal seals that seal between the first and second half-shell stator components; and

annular seals separate from the longitudinal seals that seal between the first and second end stator components and the first and second half-shell stator components;

wherein the longitudinal seals have end portions which abut against the annular seals to seal therebetween and the first and second half-shell stator components have formations that resist movement of the end portions of the longitudinal seals away from the annular seals when the end portions are compressed between the first and second half-shell stator components.

10. The multi-stage vacuum pump of claim **9**, wherein the first and second longitudinally extending faces of the first and second half-shell stator components form therebetween respective longitudinal channels for locating the longitudinal seals, and wherein the formations are formed by enlarged end portions of the longitudinal channels which are configured for receiving enlarged end portions of the longitudinal seals.

11. The multi-stage vacuum pump of claim **10**, wherein the enlarged end portions of the longitudinal channels and the enlarged end portions of the longitudinal seals taper laterally outwardly from middle portions thereof.

12. The multi-stage vacuum pump of claim **11**, wherein the enlarged end portions of the longitudinal channels and the enlarged end portions of the longitudinal seals taper outwardly in at least two orthogonal lateral dimensions from middle portions thereof.

13. The multi-stage vacuum pump of claim **10**, wherein, when located in the longitudinal channels, the end portions of the longitudinal seals extend beyond the end faces of the first and second half-shell stator components and against the annular seals.

14. The multi-stage vacuum pump of claim **9**, wherein the end portions of the longitudinal seals are configured such that, when compressed during assembly, the end portions of the longitudinal seals deform against the annular seals to extend a sealing surface therebetween.

15. The multi-stage vacuum pump of claim **9**, wherein the end portions of the longitudinal seals comprise longitudinal protrusions having a recess therebetween shaped to complement a cross-section of a respective annular seal of the annular seals so that, when assembled, a portion of the annular seal is located in the recess and a sealing surface is extended between the seals.

16. The multi-stage vacuum pump of claim **9**, wherein the first half-shell stator component comprises a first end face and the second half-shell stator component comprises a second end face, wherein the first and second end faces, when assembled together, form annular channels for locating the annular seals, and the annular channels extend through the end portions of the longitudinal channels.

17. The multi-stage vacuum pump of claim **9**, wherein the longitudinal channels are recessed into the longitudinally extending faces of the first and second half-shell stator components and longitudinal walls upstand from the recessed longitudinal channels and are generally flush with the longitudinally extending faces, and wherein the longitudinal seals fit around the longitudinal walls such that, when compressed, the longitudinal walls prevent the longitudinal seals from the deforming away from the annular seals.

18. The multi-stage vacuum pump of claim **9**, wherein the longitudinal seals and the formations of the first and second half-shell stator components resist movement of a sealing surface of the longitudinal seals away from respective annular seals.

19. The multi-stage vacuum pump of claim **9**, wherein, when located in position in the first and second half-shell stator components and prior to compression, a gap exists between the longitudinal seals and the formations of the first and second half-shell components into which the longitudinal seals can expand during compression.

20. The multi-stage vacuum pump of claim **9**, wherein the longitudinal seals are gaskets having a greater extent in two dimensions and a lesser extent in a third dimension.