CLAIMS

1. A substrate holder for use in a lithographic apparatus and configured to support a substrate, the substrate holder comprising:

a main body having a main body surface;

a plurality of main burls projecting from the main body surface, wherein each main burl has a distal end surface configured to support the substrate;

a first seal member projecting from the main body surface and having an upper surface, the first seal member surrounding the plurality of main burls and configured to restrict the passage of liquid between the substrate and the main body surface radially inward past the first seal member; and

a plurality of minor burls projecting from the upper surface of the first seal member, wherein each minor burl has a distal end surface configured to support the substrate.

2. The substrate holder of claim 1, further comprising a plurality of extraction openings formed in the main body for the extraction of fluid into the main body from between the main body and the substrate.

3. The substrate holder of claim 2, wherein the plurality of extraction openings are arranged radially outward of the first seal member, and/or wherein the substrate holder further comprising a second seal member projecting from the main body surface, the second seal member having an upper surface and surrounding the plurality of main burls and configured for restricting the passage of liquid between the substrate and the main body surface radially inward past the second seal member.

4. The substrate holder of claim 3, wherein the second seal member surrounds the first seal member, and preferably wherein the substrate holder further comprises a plurality of second minor burls projecting from an or the upper surface of the second seal member, and each second minor burl has a distal end surface configured to support the substrate, and preferably wherein the plurality of extraction openings are in the upper surface of the second seal member.

5. The substrate holder of claim 4, wherein each extraction opening is formed at a bottom surface of an extraction groove formed in the second seal member or wherein each extraction opening is formed at a bottom surface of a corresponding recess formed in the upper surface of the second seal member.

6. The substrate holder of claim 2, wherein the plurality of extraction openings are arranged radially inward of the first seal member.

7. The substrate holder of claim 2 or 6, further comprising a second seal member projecting from the main body surface, the second seal member surrounding the plurality of main burls and configured for restricting the passage of liquid between the substrate and the main body surface radially inward past the second seal member.

8. The substrate holder of claim 7, wherein the first seal member surrounds the second seal member, and/or wherein the second seal member has an upper surface and the substrate holder further comprises a plurality of second minor burls projecting from the upper surface of the second seal member, wherein each second minor burl has a distal end surface configured to support the substrate.

9. The substrate holder of any of claims 4 and 6-8, wherein the plurality of extraction openings are in the main body surface between the first seal member and the second seal member.

10. The substrate holder of any of claims 2 to 9, further comprising a plurality of outer burls projecting from the main body surface, wherein each outer burl has a distal end surface configured to support the substrate, the outer burls being radially outward of the first seal member, and preferably wherein the outer burls and the extraction openings are arranged alternately in a line surrounding the first seal member and the plurality of main burls.

11. The substrate holder of any of claims 2 to 10, further comprising a plurality of inlet openings formed in the main body for the drawing therethrough of gas to a space between the substrate and the main body, and preferably wherein the substrate holder further comprising a plurality of inlet openings formed in the main body for the drawing therethrough of gas to a space between the substrate and the main body.

12. The substrate holder of claim 11, wherein the plurality of inlet openings are formed in the main body surface radially outward of the first seal member, or wherein the plurality of inlet openings are in the upper surface of the first seal member, and preferably wherein the plurality of inlet openings are provided at the bottom of individual recesses formed in the upper surface of the first seal member.

13. The substrate holder of any of claims 1 to 12, further comprising a groove formed in the upper surface of the first seal member, wherein the groove provides a tortuous path for gas from a radially outward side of the first seal member to a radially inward side of the first seal member, and/or wherein the first seal member has an overall shape, in plan, such that a radially outer most part of the first seal member varies in distance from the center of the substrate holder around its circumference and wherein the plurality of minor burls project from parts of the first seal member which extend

further from the center of the substrate holder than other parts of the first seal member.

14. The substrate holder of any of claims 1 to 13, further comprising a meniscus pinning feature on the upper surface of the first seal member.

5

15. A lithographic apparatus including a substrate holder of any of claims 1-14.