Claims

1. A distribution system (1) for a process fluid for electrolytic surface treatment of a substrate (20), comprising:

   - a distribution body (10), and

   - a shield element (30),

   characterized in that the distribution body (10) comprises a plurality of openings (11) for the process fluid and an electrical current, wherein some of the openings (11) are drain holes, configured to direct an electric current, and wherein the drain holes are through holes extending between a front face of the distribution body (10) directed towards the substrate (20) and a rear face of the distribution body (10) opposite to the front face, and wherein other openings (11) are jet holes configured to direct the process fluid onto the substrate (20), and

   wherein the shield element (30) is configured to at least partially cover at least one of the plurality of openings (11) to limit a flow of the process fluid and/or a flow of the electrical current through the distribution body (10) so that a flow of the process fluid is modified through the distribution body and/or the electrical current distribution of the substrate is altered.

2. Distribution system (1) according to claim 1, further comprising a process unit configured to control a coverage of the openings (11) by means of the shield element (30) based on a predetermined local deposition rate for a local portion of the substrate (20) to be treated.

3. Distribution system (1) according to the preceding claim, wherein the process unit is further configured to determine the local deposition rate based on a local density of structures to be applied on the local portion of the substrate (20).

4. Distribution system (1) according to claim 2 or 3, wherein the process unit is configured to control the coverage of the openings (11) by means of the shield element (30) to limit an electrical current distribution for chemical and/or electrolytic surface treatment of the substrate (20).

5. Distribution system (1) according to one of the preceding claims, wherein the shield element (30) is plate shaped to cover an array of openings (11).

6. Distribution system (1) according to one of the preceding claims, wherein the shield element (30) is movable relative to the distribution body (10).

7. Distribution system (1) according to the preceding claim, wherein the shield element (30) is mechanically, electro-statically and/or magnetically connected to the distribution body (10).

8. Distribution system (1) according to one of the preceding claims, wherein the shield element (30) comprises a plurality of stencils (33) to be inserted at least partially in at least some of the plurality of openings (11) of the distribution body (10).

9. Distribution system (1) according to claim 8, wherein at least one of the stencils (33) comprise boreholes.

10. A distribution method for a process fluid for electrolytic surface treatment of a substrate (20), comprising the following steps:

- providing a distribution body (10), wherein the distribution body (10) comprises a plurality of openings (11) for the process fluid and the electrical current, wherein some of the openings (11) are drain holes, configured to direct an electric current, and wherein the drain holes are through holes extending between a front face of the distribution body (10) directed towards the substrate (20) and a rear face of the distribution body (10) opposite to the front face, and wherein other openings (11) are jet holes configured to direct the process fluid onto the substrate (20),

- providing a shield element (30), wherein the shield element (30) is configured to at least partially cover at least one of the plurality of openings (11) to limit a flow of the process fluid and/or a flow of the electrical current through the distribution body (10), so that a flow of the process fluid is modified through the distribution body and/or the electrical current distribution of the substrate is altered, and

- controlling the flow of process fluid through the distribution body (10) by means of the shield element (30).

11. A data processing device configured for carrying out the method steps of claim 10.