

Claims

1. A distribution system (1) for a process fluid and an electric current for chemical and/or electrolytic surface treatment of a substrate (20), comprising:
 - a distribution body (10), and
 - a shield element (30),wherein the distribution body (10) comprises a plurality of openings (11) for the process fluid and an electric current, 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 the electric current through the distribution body (10).
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. Distribution system (1) according to one of the preceding claims, wherein the openings (11) are drain holes configured to direct the 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.
11. Distribution system (1) according to one of the preceding claims, wherein the openings (11) are jet holes configured to direct the process fluid onto the substrate (20).
12. Distribution system (1) according to one of the preceding claims, wherein the openings (11) are arranged at the front face of the distribution body (10), wherein the front face of the distribution body (10) is configured to be directed towards the substrate (20) for the surface treatment of the substrate (20).
13. Distribution system (1) according to one of the claims 1 to 11, wherein the openings (11) are arranged at the rear face of the distribution body (10), wherein the rear face is arranged opposite to a front face of the distribution body (10), wherein the front face is configured to be directed towards the substrate (20) for the surface treatment of the substrate (20).

14. A distribution method for a process fluid and an electric current for chemical and/or 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 electric current,
 - 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 the electric current through the distribution body (10), and
 - controlling the flow of process fluid and the electric current through the distribution body (10) by means of the shield element (30).
15. A data processing device configured for carrying out the method steps of claim 14.