Claims

1. A device (1) for producing a cold atmospheric pressure plasma for the treatment of human and / or animal surfaces, comprising a flexible, planar multilayer system (2) with a side (3) facing the surface to be treated and a side (4) facing away from the surface to be treated, the multilayer system (2) comprises the following layers:
   - a first electrode layer (12) on the facing away side (4) of the multilayer system (2),
   - a second electrode layer (14) on the facing side (3) of the multilayer system (2), wherein the electrode layer comprises a plurality of recesses (90) or is formed like a grid or meandering,
   - a dielectric layer (13) arranged between the first electrode layer (12) and the second electrode layer (14), and
   - a spacer layer (16) arranged on top of the second electrode layer (14) on the facing side (4) of the multilayer system (2).

2. The device (1) according to one of the claims 1, wherein the multilayer system (2) additionally comprises a first insulating layer (11), wherein the first insulating layer (11) is arranged adjacent to the first electrode layer (12) on the side (4) of the multilayer system (2) facing away from the surface to be treated.

3. The device (1) according to at least one of the preceding claims, wherein the multilayer system (2) additionally comprises a second insulating layer (15) , wherein the second insulating layer (15) is arranged adjacent to the second electrode layer (14) on the side (3) of the multilayer system (2) facing the surface to be treated.

4. The device (1) according to claim 3, wherein the second insulating layer (15) has a thickness of between 10 µm and 300 µm.

5. The device (1) according to one of the preceding claims, wherein the multilayer system (2) additionally comprises a third insulating layer (17), wherein the third insulating layer (17) is arranged adjacent to the spacer layer (16) on the side (3) of the multilayer system (2) facing the surface to be treated.

6. The device (1) according to claim 5, characterized in that the third insulating layer (17) has a thickness of between 50 µm and 300 µm, preferably of 200 µm.

7. The device (1) according to at least one of the preceding claims, wherein the first electrode layer (12) is formed continuously or with a plurality of recesses.

8. The device (1) according to at least one of the preceding claims, wherein the recesses (90) in the second electrode layer (14) have a hole-shaped (91), strip-shaped (92), meandering (95), honeycomb-shaped (94), circular (96) and / or square (93) design.

9. The device (1) according to claim 7, wherein the recesses in the first electrode layer (12) have a hole-shaped (91), strip-shaped (92), meandering (95), honeycomb-shaped (94), circular (96) and / or square (93) design.

10. The device (1) according to at least one of the preceding claims, wherein the device (1) comprises an information carrier (80), in particular a chip, a label and / or another information and storage medium, on which at least one operating parameter for operating the device (1) is stored.

11. A cable (5) for connecting to a device (1) according to at least one of claims 1 to 10, wherein the cable (5) has a plug (30) configured to provide a plug-in high-voltage connection between the device (1) and the cable (5).

12. The cable (5) according to claim 11, wherein the cable has a clamping device (33), and wherein the clamping device (33) can be displaced between an open position (A) and a closed position (B), wherein in the closed position (B) the device (1) is electrically connected to the cable (5) and in the open position (B) the device is electrically disconnected from the cable (5).

13. A generator unit (70) for providing a high-voltage for producing a cold atmospheric pressure plasma, comprising a device (1) according to at least one of claims 1 to 10 for the treatment of human and / or animal surfaces, wherein the generator unit (70) is configured to control the device (1).

14. The generator unit (70) according to claim 13, wherein the generator unit (70) is additionally configured to read operating parameters for controlling the device from an information carrier (80), in particular a chip, a label and / or another information storage medium, in or at the device (1).

15. System (100) with a device (1) according to at least one of claims 1 to 10, a cable (5) according to claim 11 or 12 and a generator unit (70) according to claim 13 or 14.