Claims

1. Stimulation device comprising:

a belt (10) containing at least two vibration modules (5, 7, 9), wherein each of the at least two vibration modules (5, 7, 9) comprises:

a pod (4) with a casing (6, 26) and a vibration pad (24) arranged within the casing (6, 26), and

a vibration motor (20) with a flywheel (28) arranged within the housing (6, 26),

a control panel (15) operating said vibration motors (20) of the at least two vibration modules (5, 7, 9);

wherein the vibration motors (20) are mounted to the vibration pad (24) via at least one elastic motor housing (22).

2. Stimulation device according to claim 1,

wherein each of the vibration motors (20) is spaced away from the vibration pad (24) via the motor housing (22).

3. Stimulation device according to any of claims 1 or 2,

wherein the motor housing (22) is mounted to the vibration pad (24) via a snap-fit connection.

4. Stimulation device according to any of claims 1 to 3,

wherein the motor housing (22) is at least partly designed in a complementary manner to the vibration motor (20) for holding and supporting the vibration motor (20).

5. Stimulation device according to any of claims 1 to 4,

wherein the belt (10) comprises a strap (1) having at least one a belt fastening attachment (2, 3).

6. Stimulation device according to any of claims 1 to 5,

wherein the casing (6, 26) comprises a main casing (6) and a back casing (26), wherein the vibration pad (24) is arranged within the back casing (26) and the main casing (6) is arranged with a front panel (21).

7. Stimulation device according to claim 6,

wherein the main casing (6) and/or the back casing (26) comprises at least one attachment means for engagement with and through the strap 1 and engagement with the other of the back casing (26) or main casing (6).

8. Device according to any of claims 1 to 7,

wherein the control panel (15) operates said vibration motors (20) with an amplitude from around 0.3G to 1.0G and frequency ranging from 16 Hz to 45 Hz complementary to a voltage 0.6V to 1.3V.

9. Device according to claim 8,

wherein the control panel (15) operates said vibration motors (20) with an amplitude around 0.3G at a frequency of 20 Hz (0.8V) to an amplitude 0.62G at a frequency 37 Hz (1.0V).

10. Device according to any of claims 1 to 9,

wherein the belt (10) is flexible and/or adjustable to a wearer’s anatomy.

11. Device according to any of claims 1 to 10,

wherein at least one of the flywheels (28) is dimensioned of around 12 mm diameter and 8 mm thickness.

12. Device according to any of claims 1 to 11,

wherein the at least one of the flywheels has a weight of 7-8 grams and/or is spaced 1-5 mm from the end of the motor (20).

13. Device according to any of claims 1 to 12, further comprising a display for displaying and monitoring vital functions, wherein the display of vital functions is

integrated via an interface and/or the interface supports the exchange of information with an external device.

14. Use of a device according to claims 1 to 13 for treating hypoventilation and respiratory depression.

15. Use of the device according to claims 1 to 13 for stress reduction.

16. Method of treating hypoventilation and respiratory depression by fastening a belt (10) of a device according to claims 1 to 13 to the abdomen of a user and operating the belt (10), wherein the at least two vibration modules are externally applied to an abdominal region of a user to stimulate the diaphragm, to enhance pulmonary function.