

Claims

- 5 1. An apparatus ~~(110)~~ comprising:
- a. a medical device ~~(114)~~ which is at least partially insertable into a body tissue of a user;
- b. an insertion device ~~(116)~~ for at least partially inserting the medical device ~~(114)~~ into the body tissue;
- 10 c. a housing ~~(118)~~; and
- d. a removable cap ~~(120)~~ connected to the housing ~~(118)~~, the removable cap ~~(120)~~ being configured for being removed from the housing ~~(118)~~ before insertion of the medical device ~~(114)~~,
- 15 wherein the housing ~~(118)~~ and the removable cap ~~(120)~~, prior to removal of the removable cap ~~(120)~~, are connected via at least one flexible connection element ~~(122)~~, wherein the flexible connection element ~~(122)~~ is reversibly displaceable from a locking position ~~(216)~~ in which the removable cap ~~(120)~~ is secured to the housing ~~(118)~~ by the flexible connection element ~~(122)~~ into a releasing position ~~(218)~~ in which the removable cap ~~(120)~~ is released, wherein the flexible connection element ~~(122)~~, prior to use, is secured in the locking position ~~(216)~~ by at least one frangible securing element ~~(124)~~.
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2. The apparatus ~~(110)~~ according to claim 1 ~~any one of the preceding claims~~, wherein the flexible connection element ~~(122)~~ is movable from the locking position ~~(216)~~ into the releasing position ~~(218)~~ by applying a manual force ~~(190)~~, wherein the frangible securing element ~~(124)~~ is configured for being destroyed by the manual force ~~(190)~~, wherein a direction of the manual force ~~(190)~~ is different from a direction of a force required for removing the removable cap ~~(120)~~ from the housing ~~(118)~~.
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3. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the flexible connection element ~~(122)~~ is at least partially integrated into one of the removable cap ~~(120)~~ and the housing ~~(118)~~, wherein the flexible connection element ~~(122)~~ is further configured for remaining with the removable cap ~~(120)~~ or the housing ~~(118)~~, respectively, after removing the removable cap ~~(120)~~ from the housing ~~(118)~~.
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4. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the flexible connection element ~~(122)~~ is flexibly displaceable by at least one of manually pressing, twisting or pulling the flexible connection element ~~(122)~~.
- 5 5. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the flexible connection element ~~(122)~~ comprises at least one of a flexible tongue ~~(168)~~, a hook ~~(194)~~, a catch ~~(196)~~ or a pin ~~(198)~~.
- 10 6. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the flexible connection element ~~(122)~~ comprises at least one flexible tongue ~~(168)~~, wherein the flexible tongue ~~(168)~~ comprises at least one free end ~~(170)~~ and at least one fixed end ~~(172)~~, the fixed end ~~(172)~~ being connected to one of the housing ~~(118)~~ and the removable cap ~~(120)~~, wherein the frangible securing element ~~(124)~~ secures the flexible tongue ~~(168)~~ in the locking position ~~(216)~~.
- 15 7. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the flexible connection element ~~(122)~~ is movable from the locking position ~~(216)~~ into the releasing position ~~(218)~~ in a releasing direction ~~(192)~~, wherein the removable cap ~~(120)~~ is, during removing from the housing ~~(118)~~, movable into at least one removing direction ~~(193)~~, wherein the releasing direction ~~(192)~~ is different from the removing direction ~~(193)~~.
- 20 8. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the apparatus ~~(110)~~ is configured such that bringing the flexible connection element ~~(122)~~ from the locking position ~~(216)~~ into the releasing position ~~(218)~~ and removing of the removable cap ~~(120)~~ from the housing ~~(118)~~ requires separate mechanical actions by the user.
- 25 9. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the removable cap ~~(120)~~ is configured such that removing the removable cap ~~(120)~~ from the housing ~~(118)~~ requires a twisting motion of the removable cap ~~(120)~~.
- 30 10. The apparatus ~~(110)~~ according to any one of the preceding claims, wherein the medical device ~~(114)~~ comprises at least one of a device ~~(126)~~ for delivery of at least one therapeutic fluid into a body tissue of a user, specifically at least one infusion set ~~(130)~~ comprising at least one infusion cannula ~~(132)~~; at least one analyte sensor
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(128) for detecting at least one analyte; specifically at least one analyte sensor (128) for detecting at least one bodily analyte in the at least one bodily fluid, more specifically at least one electrochemical analyte sensor (128) comprising at least one sensor electrode for detecting the at least one analyte.

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11. The apparatus (110) according to any one of the preceding claims, wherein the insertion device (116) comprises at least one actuator (142) for driving the medical device (114) into the body tissue, wherein the insertion device (116) comprises at least one part of the housing (118), wherein the housing (118) comprises at least one stationary portion (148) configured for resting on the skin of the user and at least one actuation portion (150) configured for being manually actuated by the user for actuating the actuator (142), wherein the stationary portion (148) and the actuation portion (150) are movable with respect to each other.

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12. The apparatus (110) according to any one of the preceding claims, wherein the medical device (114) is comprised by at least one preassembled functional module (134) of the apparatus (110), the at least one preassembled functional module (134) comprising, besides the at least one medical device (114), at least one of the following components: at least one penetrating member (136) for inserting the medical device (114) into the body tissue; at least one infusion cannula for delivery of at least one therapeutic fluid into a body tissue of a user; at least one electronics unit (138) electrically connected to the medical device (114).

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13. The apparatus (110) according to the preceding claim, wherein the preassembled functional module (134) comprises at least one protective cap (140), wherein the apparatus (110) is configured such that removing the removable cap (120) removes the protective cap (140) from the preassembled functional module (134).

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14. A method for preparing the apparatus (110) according to any one of the preceding claims for insertion of at least a part of the medical device (114) into a body tissue of a user, the method comprising displacing the flexible connection element (122) from the locking position (216) into the releasing position (218), thereby at least partially destroying the frangible securing element (124), the method further comprising removing the removable cap (120) from the housing (118).

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- 5 15. A method for inserting at least a part of the medical device-~~(114)~~ of the apparatus ~~(110)~~ according to any one of claims 1 to 13~~the preceding claims~~ referring to an apparatus-~~(110)~~ into a body tissue of a user, the method comprising preparing the apparatus-~~(110)~~ for insertion by using the method according to the preceding claim, the method further comprising placing a distal end of the housing-~~(118)~~ onto the skin of the user and actuating the insertion device-~~(116)~~.