Claims

1. Method for manufacturing a robot (R) having at least one multi-axis robotic arm (2) which consists of a plurality of axis members (3) which are arranged movably relative to one another by means of a joint and each form an axis of the robotic arm (2), said axis members (3) being constructed from at least two complementary housing segments (7,12) which each have at least one of their ends a bearing device (20,21) for receiving a drive unit (9),
comprising the steps:
- arranging first housing segments (7) in an order provided for the robotic arm (2);
- inserting the drive units (9) into the first housing segments (7) of a joint region between two adjacent axis members (3) with connection of the drive units (9) to the bearing devices (20,21) of the first housing segments (7) provided for this purpose;
- placing the respective complementary second housing segments (12) on the first housing segments (7) comprising the drive units (9), with the drive units (9) being connected to the bearing devices (20,21) of the second housing segments (12) provided for this purpose; and
- fastening the second housing segments (12) to the first housing segments (7) by means of fastening means (22), whereby the drive units (9) are fixed in the axis members (3);
the method steps being automatically executed by at least one assembly robot (M1;M2).

2. Method according to claim 1, further comprising the step which can be performed by the at least one assembly robot (M1; M2):

- attaching electrical lines and/or media lines and/or sensor modules to the inserted drive units (9) and/or in the housing segments (7, 12).

3. Method according to claim 1 or 2, further comprising the steps which can be performed by the at least one assembly robot (M1;M2):
- attaching a base member (6) to a lower axis member (3) of the robotic arm (2); and/or
- attaching an effector receiving member (4) to an upper axis member (3) of the robotic arm (2).

4. Method according to one of claims 1 to 3, in which the at least one assembly robot (M1; M2) automatically removes components of the robots (R) to be produced and/or the tools required in each case for the individual assembly steps from a stationary and/or mobile storage (10,11,13).

5. Method according to one of claims 1 to 4, in which the at least one assembly robot (M1;M2) automatically changes its effectors required for the individual assembly steps as a function of these assembly steps to be carried out.

6. Method according to any one of claims 1 to 5, further comprising the steps which can be performed by said at least one assembly robot (M1;M2):
- connecting the assembled robot (R) to a power supply and/or data supply and/or media supply.

7. Method according to claim 6, further comprising the step executable by said at least one assembly robot (M1;M2):
- activating at least one functional test for the assembled robot (R).

8. Method according to one of claims 1 to 7, in which assembly steps can be carried out if the robot (R) to be assembled is arranged horizontally in its longitudinal extension.

9. Method according to claim 8, further comprising the step which can be performed by said at least one assembly robot (M1;M2):
- transferring the assembled robot (R) to a defined position.

10. Method according to claim 8, further comprising the steps:

- connecting the assembled robot (R) to a power supply and/or data supply; and
- controlling the assembled robot (R) so that it automatically moves to a defined position.

11. Method according to one of claims 1 to 10, in which the at least one assembly robot (M1;M2) is designed to be compliant and/or sensitive.

12. Method according to one of the claims 1 to 11, in which the robot (R) to be assembled is of identical design to the at least one assembly robot (M1;M2).

13. Robot (R) having a multi-axis robotic arm (2) which comprises a plurality of axis members (3) which are arranged movably relative to one another by means of a joint and which each form an axis of the robotic arm (2), said axis members (3) being constructed from at least two complementary housing segments (7,12), the robot (R) being producible according to at least one method of claims 1 to 12, such that the drive units (9) are arranged in the first housing segments (7) of the joint region between the two adjacent axis member (3).

14. Device for manufacturing a robot (R) which has at least one multi-axis robotic arm (2) which comprises a plurality of axis members (3) which are arranged so as to be movable relative to one another and each form an axis of the robotic arm (2), at least some of the axis members (3) being constructed from at least two complementary housing segments (7,12) which each have at least one of their ends a bearing device (20,21) for accommodating a drive unit (9),
- having at least one assembly robot (M1;M2) which is designed to perform various assembly steps for manufacturing the robot (R); and
- with a working space (1) which is assigned to the at least one assembly robot (M1;M2), the working space (1) comprising a holding device (8) for at least one housing segment (7,12) of the robotic arm (2 ~~R~~), which holding device (8) is designed to position the robotic arm (2) horizontally in its longitudinal extension.

15. Device according to claim 14, in which the holding device (8) is designed at least partially complementary to the contour of the housings of the axis members (3) of the robotic arm (2).

16. Device according to claim 14 or 15, in which the holding device (8) has an abutment for two ends of the robotic arm (2), respectively.

17. Device according to claim 16, in which an abutment for a base element (6) of the robotic arm (2) is designed such that the assembled robot (R) can be tilted into a defined position about this abutment with the aid of the assembly robot (M1;M2).

18. Device according to one of claims 14 to 17, in which at least one support (11,13) for components for mounting the

robot (R) is provided in the region of the working space (1).

19. Device according to one of claims 14 to 18, in which at least one conveying device (10) is provided in the region of the working space (1), along which components for mounting the robot (R) can be moved.

20. Device according to one of claims 14 to 19, in which at least one holder for various effectors of the assembly robot (M1;M2) is provided in the region of the working space (1).

21. Device according to one of claims 14 to 20, in which the at least one assembly robot (M1;M2) is designed to be compliant and/or sensitive.

22. Device according to one of claims 14 to 21, in which at least two assembly robots (M1,M2) are assigned to the working space (1), the assembly robots (M1,M2) being designed to carry out different or similar assembly steps simultaneously or sequentially.