CLAIMS

1. A pool divider device (1) for selectively dividing at least one lane (20) of a swimming pool (2) into two respective shorter lanes (21, 22), the device (1) comprising:

a main structure (10) configured to be transversely arranged with respect to the at least one lane (20) to be divided into two respective shorter lanes (21, 22), wherein the main structure (10) is further configured to have a separation distance (H) from a water level (L) of the swimming pool (2) configured to allow a swimmer to pass below the main structure (10); wherein preferably the main structure (10) is configured as a plurality of main structure modules (101) interconnected to each other; and

at least one lane divider device (11) configured to be connected to the main structure (10) and comprising a dividing panel (110), the lane divider device (11) being configured to be selectively movable between an extended position (A), in which the respective dividing panel (110) is arranged perpendicularly inserted into a respective lane (20) of the swimming pool (2) such that said lane (20) is divided into two shorter lanes (21, 22), and a retracted position (B), in which the respective dividing panel (110) is retracted from the respective lane (20) of the swimming pool (2) towards the main structure (10) such that a swimmer is allowed to pass below the main structure (10) and the dividing panel (110);

wherein preferably the main structure (10) is configured to be movable along a longitudinal direction (X) extending along the at least one lane (20) to be divided, such that when the main structure (10) is displaced along the longitudinal direction (X), then the length of the two respective shorter lanes (21, 22) relative to the length of the at least one lane (20) to be divided is adjusted.

2. The pool divider device (1) of claim 1, wherein the lane divider device (11) comprises at least one actuator (111) configured to cause the lane divider device (11) to move between the extended position (A) and the retracted position (B);

wherein preferably said at least one actuator (111) is configured as a mechanical or an electro-mechanical actuator, more preferably comprising a linear actuator and/or an electric motor.

3. The pool divider device (1) of claims 1 or 2, wherein the lane divider device (11) further comprises a respective support structure (113) configured for connecting the dividing panel (110) to the main structure (10), for the support structure (113) to be rigidly connected to the respective dividing panel (110) and movably connected to the main structure (10);

wherein preferably said support structure (113) is further configured such that, when the lane divider device (11) is arranged in its extended position (A), the dividing panel (110) protrudes from the water level (L) by a predetermined distance and the support structure (113) provides a separation space between the dividing panel (110) and the main structure (10).

4. The pool divider device (1) of claim 3, wherein the support structure (113) of the lane divider device (11), when installed, comprises at least one elongated member (114) extending from the respective dividing panel (110) to the main structure (10);

wherein preferably said support structure (113) comprises at least two or at least three elongated members (114) spaced apart from each other such that one or more air windows (115) are formed between the elongated members (114);

wherein more preferably the support structure (113) further comprises at least one interconnecting member (117) transversely arranged with respect to the elongated members (114) and configured to interconnect to each other at least two of the elongated members (14).

5. The pool divider device (1) of any of claims 3 or 4, wherein the support structure (113) of the lane divider device (11), when installed, further comprises an auxiliary structural portion (122) extending from a part (1141) of the support structure (113) distally arranged with respect to the dividing panel (110), wherein said auxiliary structural portion (122) is configured to extend at least partially along a direction being perpendicular or oblique to a geometric plane arranged centrally with respect to a thickness of the dividing panel (110), such that a respective end portion (123) of the auxiliary structural portion (122) is arranged at an offset distance from said geometric plane;

wherein preferably the auxiliary structural portion (122) comprises at least two structural arms (122), wherein the end portion of the auxiliary structural portion (122) comprises respective end portions (123) of the at least two structural arms (122), said end portions (123) being arranged at an offset distance from said geometric plane.

6. The pool divider device (1) of claims 3 to 5, wherein the dividing panel (110) of the lane divider device (11) is configured as a solid body or comprises two planar plates (1101), wherein the pool divider device (1) is configured for each planar plate (1101) to be arranged at a respective side of the support structure (113), such that, when the lane divider device (11) is arranged in its respective extended position (A), each planar plate (1101) is arranged facing a respective shorter lane (21, 22).

7. The pool divider device (1) of any of the preceding claims, wherein the lane divider device (11) further comprises one, two or more articulations (116) configured to movably connect the lane divider device (11) to the main structure (10), such that the lane divider device (11) is configured to swivel angularly between its respective extended position (A) and its respective retracted position (B);

wherein preferably the one or more articulations (116) of the lane divider device (11), when installed, are arranged at a part of the lane divider device (11) being distally arranged with respect to the dividing panel (110).

8. The pool divider device (1) of any of claim 7 and any of claims 3 to 6, wherein, when installed, the one or more articulations (116) of the lane divider device (11) that are arranged at a part of the lane divider device (11) being distally arranged with respect to the dividing panel (110) are further arranged at a respective end portion (1141) of the at least one elongated member (114) of the support structure (113) being distally arranged with respect to the dividing panel (110);

wherein preferably said at least one elongated member (114) is configured such that, when the lane divider device (11) is arranged in its extended position (A), the at least one elongated member (14) is arranged vertically.

9. The pool divider device (1) of claims 7 or 8, wherein the at least one articulation (116) of the lane divider device (11) comprises a respective spherical bearing (1161) configured to allow an oscillating adjustment between the lane divider device (11) and the main structure (10)

10. The pool divider device (1) of any of the preceding claims, wherein the dividing panel (110) of the lane divider device (11), when installed, extends transversely between two opposing lateral portions (119, 120), wherein each lateral portion (119, 120) comprises a respective lateral connector (121) configured to be selectively actuated for providing a rigid connection to a respective lateral connector (121) of a dividing panel (110) of an adjacent lane divider device (11) and/or to a wall of the swimming pool (2);

wherein preferably each lateral connector (121) comprises a respective auxiliar connector configured to be connected to a lane rope being external to the pool divider device (1).

11. The pool divider device (1) of any of the preceding claims, wherein the dividing panel (110) of the lane divider device (11), when installed, further comprises at least one or at least two transversal structural elements (118) rigidly connected to the dividing panel (110) and arranged transversely with respect to the dividing panel (110).

12. The pool divider device (1) of claims 10 and 11, wherein the dividing panel (110) of the lane divider device (11) is configured such that the at least one transversal structural element (118) extends transversely between the two opposing lateral portions (119, 120), such that the lateral connectors (121) are arranged at respective ends of the transversal structural element (118).

13. The pool divider device (1) of any of the preceding claims, further comprising one or more locking means (124, 125) configured to lock the lane divider device (11) to the main structure (10) in its respective extended position (A) and/or in its respective retracted position (B).

14. The pool divider device (1) of claims 5 and 13, wherein the one or more locking means (124, 125) comprises:

an extended position locker (124) configured to selectively lock the end portion (123) of the auxiliary structural portion (122) of the support structure (113) to the main structure (10) when the lane divider device (11) is its extended position (A), wherein preferably said extended position locker (124) comprises a respective actuator (1241) configured to automatically lock the extended position locker (124); and/or

a retracted position locker (125) configured to selectively lock the end portion (123) of the auxiliary structural portion (122) of the support structure (113) to the main structure (10) when the lane divider device (11) is its retracted position (B), wherein preferably said retracted position locker (125) comprises a respective actuator configured to automatically lock the retracted position locker (125).

15. The pool divider device (1) of any of the preceding claims, comprising a plurality of lane divider devices (11), each lane divider device (11) being as described in any of the preceding claims;

wherein preferably the main structure (10), when installed, is configured as a plurality of main structure modules (101) interconnected to each other;

wherein more preferably each main structure module (101) comprises one or more lane divider devices (11) of the plurality of lane divider devices (11).