[CLAIMS]

What is claimed is:

[Claim 1]

A liquid cooling plug-in assembly, comprising a first fixed plate, a floating plate, a plurality of second elastic members, and a plurality of plug-in members, wherein the plurality of plug-in members are all connected to the floating plate, the first fixed plate is provided with a movement cavity therein, the floating plate and the plurality of second elastic members are located in the movement cavity, the floating plate is in floating connection with the first fixed plate by means of the plurality of second elastic members, two ends of the second elastic member are respectively connected to the first fixed plate and the floating plate, and the plurality of second elastic members are distributed around an outer peripheral edge of the floating plate,

wherein the liquid cooling plug-in assembly further comprises at least one first elastic member, wherein the first elastic member is located in the movement cavity, and the floating plate is also in floating connection with the first fixed plate by means of the first elastic member.

[Claim 2]

The liquid cooling plug-in assembly according to claim 1, wherein the insertion directions of the plurality of plug-in members are all perpendicular to a length direction of the second elastic member.

[Claim 3]

The liquid cooling plug-in assembly according to claim 1, wherein the second elastic member is configured as a tension spring.

[Claim 4]

The liquid cooling plug-in assembly according to claim 1, wherein a length direction of the first elastic member is the same as an insertion direction of the plug-in member, and two ends of the first elastic member abut against the first fixed plate and the floating plate, respectively.

[Claim 5]

The liquid cooling plug-in assembly according to claim 1, wherein the first elastic member is configured as a belleville spring.

[Claim 6]

The liquid cooling plug-in assembly according to claim 1, wherein the first fixed plate comprises a fixed frame, a front cover plate and a rear cover plate, the front cover plate and the rear cover plate are respectively connected to two sides of the fixed frame, the movement cavity is defined by the front cover plate, the fixed frame and the rear cover plate, and the first elastic member is pressed between the floating plate and the rear cover plate.

[Claim 7]

The liquid cooling plug-in assembly according to claim 6, further comprising a first sealing member, wherein the front cover plate is provided with a first connection opening, the first connection opening is in communication with the movement cavity, the floating plate is located in the first connection opening and the movement cavity, the first sealing member is connected to the front cover plate, and the first sealing member continuously and incessantly surrounds the first connection opening.

[Claim 8]

The liquid cooling plug-in assembly according to claim 6, wherein the rear cover is provided with a second connection opening, the second connection opening is in communication with the movement cavity, the floating plate passes through the second connection opening and is connected to the plug-in member, the liquid cooling plug-in assembly further comprising a second sealing member, the second sealing member continuously and incessantly surrounds the second connection opening, and the second sealing member is connected to the rear cover plate and pressed between the rear cover plate and the floating plate.

[Claim 9]

The liquid cooling plug-in assembly according to claim 6, wherein the floating plate is provided with at least one mounting hole on a side facing the front cover plate, the liquid cooling

plug-in assembly further comprises at least one positioning pin, one end of the positioning pin is connected to the mounting hole, and the other end of the positioning pin extends outward along an insertion direction of the plug-in member.

[Claim 10]

The liquid cooling plug-in assembly according to claim 9, wherein the mounting hole penetrates the floating plate, and the first elastic member is inserted into the mounting hole and abuts against the positioning pin.

[Claim 11]

The liquid cooling plug-in assembly according to claim 1, wherein the floating plate is provided with a plurality of first liquid through holes, the plurality of first liquid through holes are in one-to-one correspondence with the plurality of plug-in members, the plug-in member is in threaded connection to one end of the first liquid through hole, and the other end of the first liquid through hole is configured to communicate with an external liquid supply system.

[Claim 12]

A liquid cooling plug-in device, comprising a matching plug-in assembly and a liquid cooling plug-in assembly according to any one of claims 1 to 11, the matching plug-in assembly being detachably connected to the liquid cooling plug-in assembly.

[Claim 13]

The liquid cooling plug-in device according to claim 12, wherein the matching plug-in assembly comprises a second fixed plate and a plurality of matching members, the plurality of matching members are all connected to the second fixed plate and in one-to-one correspondence with the plurality of plug-in members, and the matching member is detachably connected to the liquid cooling plug-in assembly and in communication with the plug-in member.

[Claim 14]

The liquid cooling plug-in device according to claim 13, wherein the second fixed plate comprises a plurality of second liquid through holes, and the plurality of second liquid through

holes are in one-to-one correspondence with the matching members, the matching member comprises an insert and a pipe joint, the insert is in threaded connection to one end of the second liquid through hole, the pipe joint is in threaded connection to the other end of the second liquid through hole, the insert is inserted into the floating plate or the plug-in member, and the plug-in member, the insert and the pipe joint are in mutual communication.

[Claim 15]

The liquid cooling plug-in device according to claim 13, wherein the liquid cooling plug-in assembly further comprises a first sealing member connected to the first fixed plate, the second fixed plate is provided with a protruding ring on a side facing the first fixed plate, the protruding ring and the first sealing member both continuously and incessantly surround the plurality of matching members, and the protruding ring abuts against the first sealing member.

[Claim 16]

The liquid cooling plug-in device according to claim 13, wherein the liquid cooling plug-in assembly further comprises at least one positioning pin, the positioning pin is connected to the floating plate and extends outward in a direction of the matching plug-in assembly, the matching plug-in assembly further comprises at least one positioning sleeve, the positioning sleeve is connected to the second fixed plate, the positioning pins are in one-to-one correspondence with the positioning sleeves, and the positioning pin is inserted in the positioning sleeve.

[Claim 17]

The liquid cooling plug-in device according to claim 13, wherein the matching member is configured as a liquid cooling socket, and the plug-in member is configured as a liquid cooling plug; or, the matching member is configured as a liquid cooling plug, and the plug-in member is configured as a liquid cooling socket; and the liquid cooling plug is matched with the liquid cooling socket.

[Claim 18]

A battery pack assembly, comprising a liquid cooling plug-in device according to any one of claims 12 to 17.