impermeable sheets connected together by a plurality of ribs located ~~and a corrugated structure~~ between the first and second sheets. The plurality of ribs ~~corrugated structure~~ form~~s~~ an array of parallel channels extending from one end of that plate to an opposite end of that plate. The plurality of corrugated plates and the plurality of battery cells are interleaved with each other, and each plate of the plurality of corrugated plates extends from the first manifold to the second manifold and is oriented so that the plurality of channels within that plate forms a plurality of fluid flow paths and each of the channels of the plurality of channels in each flow plate extends from and directly connects~~connecting~~ the first manifold ~~and~~ to the second manifold~~s~~.

[0007] Other embodiments include one or more of the following features. The battery cells within the plurality of battery cells are lithium-ion batteries. The battery cells within the plurality of battery cells are flat battery cells, e.g. prismatic battery cells. In each corrugated flow plate of the plurality of corrugated flow plates the first and second sheets are made of a plastic material, e.g. a polypropylene polymer. Each corrugated flow plate of the plurality of corrugated flow plates is an extruded structure. In each corrugated flow plate, the corrugated structure is a plurality of ribs between and connecting the first and second sheets. The interleaved arrangement forms a battery cell stack and the assembly also includes a clamping system applying compressive force to the battery cells within the battery cell stack. The battery assembly further includes first and second end plates, the first end plate on one end of the battery cell stack and the second end plate on an opposite end of the battery cell stack. The clamping system includes a plurality of springs exerting forces on at least one of the first and second end plates. Each of the first and second manifolds has an internal cavity and a back wall including a plurality of slots extending into the internal cavity and into each of which is inserted a corresponding one of the plurality of flow plates. Each battery cell among the plurality of battery cells is within direct contact with and between a corresponding two flow plates of the plurality of flow plates.

[0008] In general, in another aspect, the invention features a battery assembly including: a plurality of prismatic battery cells; first and second fluid manifolds; and a plurality of corrugated flow plates interleaved with the plurality of battery cells. Each the flow plates

extends from the first manifold to the second manifold and provides an array of flow channels for carrying fluid from the first manifold to the second manifold and wherein each of the flow channels in each of the plurality of flow plates extends from and directly connects the first manifold to the second manifold. Each plate of the plurality of corrugated flow plates is an extruded plastic structure having first and second fluid impermeable sheets and a plurality of parallel ribs between and connecting the first and second sheets, wherein the plurality of ribs forms the array of flow channels.

[0009] The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Other features, objects, and advantages of the invention will be apparent from the description and drawings, and from the claims.

1. A battery assembly comprising:

a plurality of battery cells;

a plurality of corrugated flow plates; and

first and second fluid manifolds,

wherein each plate of the plurality of corrugated flow plates comprises first and second fluid impermeable sheets connected together by a plurality of ribs located ~~and a corrugated structure~~ between the first and second sheets, said plurality of ribs ~~corrugated structure~~ forming an array of parallel channels extending from one end of that plate to an opposite end of that plate,

wherein the plurality of corrugated plates and the plurality of battery cells are interleaved with each other, and

wherein each plate of the plurality of corrugated plates extends from the first manifold to the second manifold and is oriented so that the plurality of channels within that plate forms a plurality of fluid flow paths and each of the channels of the plurality of channels in each flow plate extends from and directly connects ~~connecting~~ the first manifold to the ~~and~~ second manifold~~manifolds~~.

2. The battery assembly of claim 1, wherein the battery cells within the plurality of battery cells are lithium-ion batteries.

3. The battery assembly of claim 1, wherein the battery cells within the plurality of battery cells are flat battery cells.

4. The battery assembly of claim 1, wherein the battery cells within the plurality of battery cells are prismatic battery cells.

5. The battery assembly of claim 1, wherein in each corrugated flow plate of the plurality of corrugated flow plates ~~the first and second sheets comprise~~ is made of a plastic material.

6. The battery assembly of claim 1, wherein in each corrugated flow plate of the plurality of corrugated flow plates comprises ~~the first and second sheets comprise~~ a polypropylene polymer.

7. The battery assembly of claim 1, wherein each corrugated flow plate of the plurality of corrugated flow plates is an extruded structure.

~~8. The battery assembly of claim 1, wherein in each corrugated flow plate of the plurality of corrugated flow plates the corrugated structure is a plurality of ribs between and connecting the first and second sheets.~~

~~9~~8. The battery assembly of claim 1, wherein the interleaved arrangement forms a battery cell stack and further comprising a clamping system applying compressive force to the battery cells within the battery cell stack.

~~10~~9. The battery assembly of claim ~~9~~8, further comprising first and second end plates, the first end plate on one end of the battery cell stack and the second end plate on an opposite end of the battery cell stack.

~~11~~10. The battery assembly of claim ~~10~~9, wherein the clamping system comprises a plurality of springs exerting forces on at least one of the first and second end plates.

~~12~~11. The battery assembly of claim 1, wherein each of the first and second manifolds has an internal cavity and a back wall including a plurality of slots extending into the internal cavity and into each of which is inserted a corresponding one of the plurality of flow plates.

~~13~~12. The battery assembly of claim 1, wherein each battery cell among the plurality of battery cells is within direct contact with and between a corresponding two flow plates of the plurality of flow plates.

~~14~~13. A battery assembly comprising:

a plurality of prismatic battery cells;

first and second fluid manifolds; and

a plurality of corrugated flow plates interleaved with the plurality of battery cells, each the flow plates extending from the first manifold to the second manifold and providing an array of flow channels for carrying fluid from the first manifold to the second manifold and wherein each of the flow channels in each of the plurality of flow plates extends from and directly connects the first manifold to the second manifold,

wherein each plate of the plurality of corrugated flow plates is an extruded plastic structure comprising first and second fluid impermeable sheets and a plurality of parallel ribs between and connecting the first and second sheets, said plurality of ribs forming the array of flow channels.

~~15~~14. The battery assembly of claim ~~14~~13, wherein the battery cells within the plurality of battery cells are lithium-ion batteries.

~~16~~15. The battery assembly of claim ~~14~~13, wherein the battery cells within the plurality of battery cells are prismatic battery cells.

~~17~~16. The battery assembly of claim ~~14~~13, wherein the plastic structure ~~material~~ comprises a polypropylene polymer.