

What is claimed is:

1. An electrical power generation system, comprising:
 - a hydraulic pump configured to be switchable between operating in a first pump direction and in a second pump direction opposite the first pump direction;
 - a hydraulic motor operably connected to the hydraulic pump to convert hydraulic flow into electrical power, the hydraulic motor having a motor inlet passage and a motor outlet passage; and
 - a hydraulic block disposed in flow communication with the hydraulic pump and with the hydraulic motor, the hydraulic block configured such that hydraulic fluid flow exiting the hydraulic block toward the hydraulic motor is directed through the motor inlet passage, regardless of whether the hydraulic pump is operating in the first pump or the second pump direction.
2. The electrical power generation system of claim 1, the hydraulic block including a plurality of check valves interconnected with a plurality of hydraulic passages to direct hydraulic fluid flow through the hydraulic block.
3. The electrical power generation system of claim 2, the hydraulic block including a pressure regulator.
4. The electrical power generation system of claim 1, further comprising a priming pump operably connected to and driven by the hydraulic motor.
5. The electrical power generation system of claim 4, wherein the priming pump is in fluid communication with a hydraulic fluid reservoir to maintain a selected hydraulic fluid pressure in the electrical power generation system.
6. The electrical power generation system of claim 4, wherein the priming pump is driven in only one direction by the hydraulic motor.
7. The electrical power generation system of claim 1, wherein the hydraulic motor is operably connected to one or more batteries to charge the one or more batteries.
8. A transportation refrigeration system, comprising:
 - a cargo container;
 - a refrigeration unit operably connected to the cargo container to condition an interior of the cargo container; and
 - an electrical power generation system operably connected to the refrigeration unit to provide electrical power to the refrigeration unit, the electrical power generation system including:

a hydraulic pump configured to be switchable between operating in a first pump direction and in a second pump direction opposite the first pump direction;

a hydraulic motor operably connected to the hydraulic pump to convert hydraulic flow into electrical power, the hydraulic motor having a motor inlet passage and a motor outlet passage; and

a hydraulic block disposed in flow communication with the hydraulic pump and with the hydraulic motor, the hydraulic block configured such that hydraulic fluid flow exiting the hydraulic block toward the hydraulic motor is directed through the motor inlet passage, regardless of whether the hydraulic pump is operating in the first pump or the second pump direction.

9. The transportation refrigeration system of claim 8, the hydraulic block including a plurality of check valves interconnected with a plurality of hydraulic passages to direct hydraulic fluid flow through the hydraulic block.

10. The transportation refrigeration system of claim 9, the hydraulic block including a pressure regulator.

11. The transportation refrigeration system of claim 8, further comprising a priming pump operably connected to and driven by the hydraulic motor.

12. The transportation refrigeration system of claim 11, wherein the priming pump is in fluid communication with a hydraulic fluid reservoir to maintain a selected hydraulic fluid pressure in the electrical power generation system.

13. The transportation refrigeration system of claim 11, wherein the priming pump is driven in only one direction by the hydraulic motor.

14. The transportation refrigeration system of claim 8, wherein the hydraulic motor is operably connected to one or more batteries to charge the one or more batteries.

15. The transportation refrigeration unit of claim 14, wherein the one or more batteries are operably connected to the refrigeration unit to provide electrical power to the refrigeration unit.

16. The transportation refrigeration system of claim 8, wherein the hydraulic pump is driven by a rotation of a vehicle wheel.

17. The transportation refrigeration system of claim 16, wherein the vehicle wheel is a railway car wheel.