CLAIMS

1. A transport refrigeration system for an interior space of a cargo container, comprising:

an evaporator coil and an evaporator fan residing within the interior space of the cargo container, the evaporator coil being configured for refrigerating the interior space;

an evaporator motor coupled to the evaporator fan along an axial shaft;

a condenser coil and a condenser fan disposed adjacent to the evaporator motor; and

an insulation panel configured that separates the evaporator motor from the evaporator fan.

2. The system of claim 1, wherein the evaporator fan is configured for circulating cooled air within the interior space.

3. The system of claim 1, wherein the evaporator motor resides within an interior cavity, the interior cavity in fluid communication with an ambient environment.

4. The system of claim 3, further comprising at least one perforated panel located between the interior cavity and the ambient environment, the at least one perforated panel being configured for causing ambient air to enter the interior cavity.

5. The system of claim 3, further comprising an insulation panel located between the interior cavity and the interior space, the insulation panel being configured for thermally separating the interior space from the interior cavity.

6. The system of claim 1, wherein the condenser coil and condenser fan are configured for residing within a second interior cavity, the second interior cavity in fluid communication with an ambient environment.

7. The system of claim 6, further comprising at least a second insulation panel for thermally separating the interior space from the second interior cavity.

8. The system of claim 1, further comprising a compressor configured for conditioning a refrigerant contained therein.

9. The system of claim 8, further comprising a refrigerant line configured for circulating the refrigerant through the evaporator coil in response to the cooling of the interior space.

10. A method for refrigerating an interior space of a cargo container including a compressor coupled to a condenser coil and an evaporator coil, comprising:

providing an evaporator coil and evaporator fan within the interior space, the evaporator coil being configured for refrigerating the interior space of the cargo container;

coupling an evaporator motor to the evaporator fan along an axial shaft;

providing a condenser coil and a condenser fan adjacent to the evaporator motor; and

separating the evaporator motor from the evaporator fan with a thermal insulator.

11. The method of claim 10, further comprising circulating cooled air within the interior space.

12. The method of claim 10, wherein the evaporator motor resides within an interior cavity, the interior cavity in fluid communication with an ambient environment.

13. The method of claim 12, wherein at least one perforated panel is located between the interior cavity and the ambient environment, the at least one perforated panel being configured for causing ambient air to enter the interior cavity.

14. The method of claim 12, further comprising an insulation panel located between the interior cavity and the interior space, the insulation panel being configured for thermally separating the interior space from the interior cavity.

15. The method of claim 10, further comprising providing the condenser coil and condenser fan within a second interior cavity, the second interior cavity in fluid communication with an ambient environment.

16. The method of claim 15, further comprising thermally separating, via a second insulation panel, the interior space from the second interior cavity.

17. The method of claim 10, further comprising conditioning, via the compressor, a refrigerant contained therein.

18. The method of claim 17, further comprising circulating, via a refrigerant line, the refrigerant through the evaporator coil in response to the cooling of the interior space.

CLAIMS

1. A transport refrigeration system for an interior space, comprising:

an evaporator coil and an evaporator fan residing within the interior space, the evaporator coil being configured for refrigerating the interior space;

an evaporator motor coupled to the evaporator fan along an axial shaft , the evaporator motor residing within an interior cavity, the interior cavity in fluid communication with an ambient environment;

a condenser coil and a condenser fan disposed adjacent to the evaporator motor;

an insulation panel that separates the evaporator motor from the evaporator fan;

at least a second insulation panel for thermally separating the interior space from a

second interior cavity;

wherein the condenser coil and condenser fan reside within the second interior cavity, the second interior cavity being in fluid communication with an ambient environment.

2. The system of claim 1, wherein the evaporator fan is configured for circulating cooled air within the interior space.

3. The system of claim 1, further comprising at least one perforated panel located between the interior cavity and the ambient environment, the at least one perforated panel being configured for causing ambient air to enter the interior cavity.

4. The system of claim 1, further comprising an insulation panel located between the interior cavity and the interior space, the insulation panel being configured for thermally separating the interior space from the interior cavity.

5. The system of claim 1, further comprising a compressor configured for conditioning a refrigerant contained therein.

6. The system of claim 5, further comprising a refrigerant line configured for circulating the refrigerant through the evaporator coil in response to the cooling of the interior space.

7. A method for refrigerating an interior space of a transport refrigeration system including a compressor coupled to a condenser coil and an evaporator coil, comprising:

providing an evaporator coil and evaporator fan within the interior space, the evaporator coil being configured for refrigerating the interior space;

coupling an evaporator motor to the evaporator fan along an axial shaft, wherein

the evaporator motor resides within an interior cavity, the interior cavity in fluid communication with an ambient environment;

providing a condenser coil and a condenser fan adjacent to the evaporator motor;

separating the evaporator motor from the evaporator fan with a thermal insulator;

providing the condenser coil and condenser fan within a second interior cavity, the

second interior cavity in fluid communication with an ambient environment; and

thermally separating, via a second insulation panel, the interior space from the second interior cavity.

8. The method of claim 7, further comprising circulating cooled air within the interior space.

9. The method of claim 7, wherein at least one perforated panel is located between the interior cavity and the ambient environment, the at least one perforated panel being configured for causing ambient air to enter the interior cavity.

10. The method of claim 7, further comprising an insulation panel located between the interior cavity and the interior space, the insulation panel being configured for thermally separating the interior space from the interior cavity.

11. The method of claim 7, further comprising conditioning, via the compressor, a refrigerant contained therein.

12. The method of claim 11, further comprising circulating, via a refrigerant line, the refrigerant through the evaporator coil in response to the cooling of the interior space.