CLAIMS

1. A radiation air conditioner comprising:

an air conditioner installed on a ceiling surface;

a back panel attached to the ceiling surface adjacent to a blow-out port of the air conditioner;

a permeable radiation panel having a horizontal projection area larger than a combined area of the air conditioner and the back panel; and

a pair of side walls interposed between the back panel and the radiation panel along a direction in which air-conditioned air is blown out from the blow-out port,

a housing having an air intake port and a blow-out port arranged on one surface and another surface opposite to the one surface, which cross a horizontal surface, respectively;

a heat exchanger arranged between the air intake port and the blow-out port;

a cross flow fan arranged on the blow-out port side of the heat exchanger; and

a drive unit which drives a drive source of the cross flow fan so that a rotation direction of a region above a rotational axis takes a direction directed from the heat exchanger to the blow-out port, and

wherein the radiation panel has a hollow structure having a permeable radiation surface at one surface and having an opening portion arranged on the back panel side at the surface opposite to the radiation surface, and

wherein the pair of side walls face each other with the opening portion inserted between the side walls without protruding.

2. The radiation air conditioner according to claim 1, wherein the radiation panel is provided in a state in which a bag-shaped cloth is stretched on a frame body.

3. The radiation air conditioner according to claim 2, wherein the cloth has a mesh cloth in the opening portion.

4. The radiation air conditioner according to claim 2, wherein the frame body rotatably connects a first frame body arranged on the air conditioner side and a second frame body arranged on the back panel side.

5. The radiation air conditioner according to claim 4, wherein the second frame body constitutes an outer frame member connected to the first frame body as a close contact member being in close contact with the housing of the air conditioner through the cloth.

6. The radiation air conditioner according to claim 2, wherein the frame body includes a rod-shaped close contact member which comes into close contact with the housing of the air conditioner through the cloth.

7. The radiation air conditioner according to claim 6, wherein the frame body is rotatable at a position opposite to the back panel with respect to the close contact member.

8. The radiation air conditioner according to claim 5, wherein the close contact member is arranged directly below the heat exchanger built in the air conditioner in the vertical direction.

9. The radiation air conditioner according to any one of the preceding claims, including an air flow controller which generates an air flow toward the cross flow fan from obliquely below on the side of the air intake port and generates an air flow traveling obliquely downward from the cross flow fan on the side of the blow-out port.

10. The radiation air conditioner according to claim 9, wherein the air intake port, the heat exchanger, the cross flow fan, and the blow-out port are provided on a straight line.

11. The radiation air conditioner according to claim 9, wherein the heat exchanger tilts a surface on the side of the cross flow fan downwardly, and

wherein the air flow controller causes an air flow orthogonal to the surface of the heat exchanger and traveling downward to be along the bottom surface of the housing and causes the air flow to be directed toward the cross flow fan from obliquely below.

12. The radiation air conditioner according to claim 9, wherein the air flow controller connects between the cross flow fan and the blow-out port by a hollow member which forms a space inclined downward from the cross flow fan toward the blow-out port.

13. The radiation air conditioner according to claim 9, wherein the air intake port, the heat exchanger, the cross flow fan, and the blow-out port are provided on a straight line,

wherein the heat exchanger tilts a surface on the side of the cross flow fan downwardly, and

wherein the air flow controller causes an air flow orthogonal to the surface of the heat exchanger and traveling downward to be along the bottom surface of the housing, causes the air flow to be directed toward the cross flow fan from obliquely below, and connects between the cross flow fan and the blow-out port by a space inclined downward from the cross flow fan toward the blow-out port.