Claims

1. An air compression device to be mounted on a train vehicle for generating a compressed air for the train vehicle, the air compression device comprising:

a compression unit for compressing air;

a motor unit for driving the compression unit;

a housing which houses the compressor unit and the motor unit, the housing being formed with cooling air inflow port for allowing air for cooling the compression unit and the motor unit from an outside of the housing to an inside of the housing, an outflow port for allowing the air having cooled the compression unit and the motor unit to flow from the inside of the housing to the outside of the housing, and a maintenance opening for performing maintenance of the compression unit;

a panel member for closing the maintenance opening; and

a fan device unit which is attached on the panel member, and generates an air flow from the air having flown in through the cooling air inflow port to cool the compressor unit.

2. The air compression device according to claim 1, wherein the panel member is detachably attached to the housing.

3. The air compression device according to claim 1 or 2, wherein

the fan device unit is configured to have an inlet port which sucks air in the housing and send the air sucked through the inlet port toward the compressor unit,

the panel member is formed with a recessed space, the recessed space being a part of an inner surface of the panel member recessed from the inside of the housing toward the outside, and

at least a part of the fan device unit is arranged in the recessed space such that the inlet port is located in the recessed space.

4. The air compression device according to claim 3, wherein

the compressor unit has a first compressor and a second compressor,

the fan device unit has a first fan device which generates an air flow that cools the first compressor and a second fan device which generates an air flow that cools the second compressor, and

the recessed space has a first recessed space in which at least a part of the first fan device is arranged and a second recessed space in which at least a part of the second fan device is arranged, the first recessed space and the second recessed space continuing

with each other.

5. The air compression device according to claim 4, wherein

the panel member has a compressible air inflow port which is located between the first fan device and the second fan device to allow air for compression to flow into the housing, and

the compressible air inflow port is formed out of the first recessed space and the second recessed space continuing each other.

6. The air compression device according to claim 5, further comprising:

an air filter portion detachably attached in the compressible air inflow port of the panel member.

7. The air compression device according to claim 6, wherein

the air filter portion has a filter main body, and a fixing portion which fixes the filter main body to the panel member, and

the fixing portion is arranged within a range of a width of the filter main body in a horizontal direction.

8. The air compression device according to claim 5, further comprising:

a guide path which guides the air having flown into the housing through the compressible air inflow port to the compressor unit; and

a trim seal which links the air filter portion and the guide path.

9. The air compression device according to any one of claims 5 to 7, further comprising:

a cooling air filter portion for opening and closing the cooling air inflow port.

10. The air compression device according to claim 9, further comprising:

a connector unit having a wire connected to the fan device unit,

wherein the connector unit is arranged at a position where the connector unit is exposed through the cooling air inflow port when the cooling air inflow port is opened.