In order to solve such a problem, a configuration in which a flow channel switching valve is provided in a refrigerant distribution device as disclosed in Japanese Unexamined Patent Application, First Publication No. S60-134167, Japanese Unexamined Patent Application, First Publication No. S61-175378, or Japanese Unexamined Utility Model Application, First Publication No. S62-133073 has been proposed, but it was not clearly described how operating conditions are set and technical improvement in this regard is expected.

[0006]

Embodiments of the invention provide a refrigerant distribution device, a cooling system, and a refrigerant distribution method that can maintain an amount of refrigerant liquid in a heat receiver at a fixed value by clearly setting operating conditions of a flow channel switching valve disposed in a distribution vessel and prevent a decrease in heat reception efficiency in the heat receiver.

[0007]

According to a first aspect of the invention, there is provided a refrigerant distribution device including: a distribution vessel in which a refrigerant liquid flows; a refrigerant inflow pipe that is connected to a top portion of the distribution vessel and is supplied with a refrigerant liquid; a first refrigerant outflow pipe that is connected to a bottom portion of the distribution vessel and discharges the refrigerant liquid to one heat receiver; a second refrigerant outflow pipe that is connected to the bottom portion of the distribution vessel and discharges the refrigerant liquid to the other heat receiver; and a flow channel switching valve that is disposed in the distribution vessel and operates depending on a level of the refrigerant liquid in the distribution vessel, wherein the flow channel switching valve