

**Single-Phase Induction Motor and Refrigerator using the Single-Phase Induction Motor****ABSTRACT**

5 The present invention discloses a single-phase induction motor (1) that contains a main (1a) and an auxiliary (1b) windings installed at electrically different angle from each other, a starting capacitor (8) connected with the auxiliary winding (1b) via a starting relay (4, 4a), a plurality of operation capacitors (6, 7) connected in parallel with the starting capacitor (8), a relay (4, 4a) that connects and disconnects operation capacitors,
10 and a controller (10) that closes the relay (4, 4a) when the motor is powered off. The single-phase induction motor (1) of the present invention thus overcomes problems associated with the prior art, most notably, a large current that runs through the relay contacts each time any operation capacitor is connected or disconnected. Furthermore, the arrangement can eliminate arcing of the relay contacts. The single-phase induction
15 motor in accordance with the present invention thus achieves highly efficient motor operation with large starting torque.

Figure 1