

EXPERIMENT-1

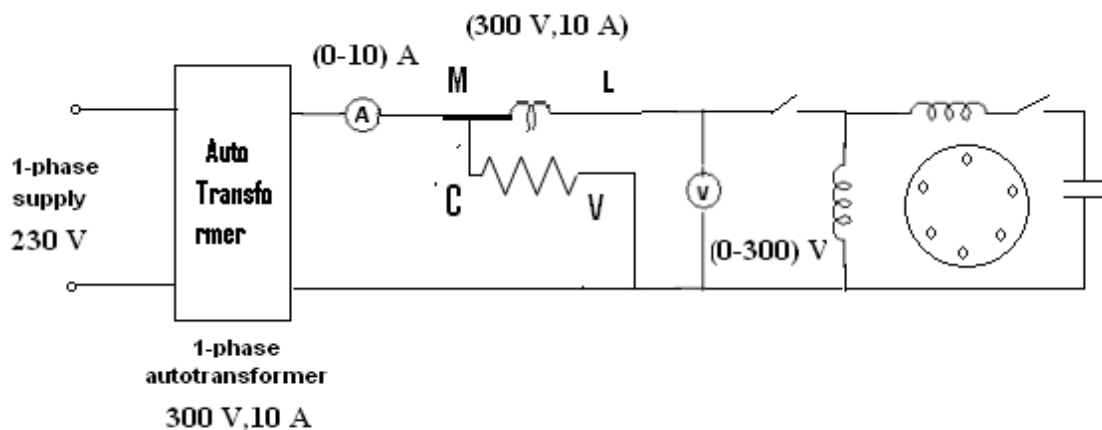
OBJECTIVE

To perform the 'Running light' and 'blocked rotor' tests on a single-phase induction motor (capacitor start type) and to derive its equivalent circuit.

APPARATUS REQUIRED

1. Ammeter-AC-(0-10) A.
2. Voltmeter-AC-(0-300) V.
3. Wattmeter-(10 A, 300 V).
4. Single phase autotransformer.

CIRCUIT DIAGRAM



PROCEDURE

First the measure the stator resistance.

Running light (no load) test:

1. Make the connections as per the circuit diagram.
2. Rated voltage is applied to the stator by varying the autotransformer.
3. Note the readings of ammeter, voltmeter and the wattmeter.
4. The autotransformer is moved to minimum voltage position and the supply is switched off.

Blocked rotor test:

1. The rotor is blocked by hand.
2. By using the auto transformer, apply a voltage such that rated current flows in the stator winding.
3. Note the readings of the applied voltage, current and power.

OBSERVATIONS

Running light test:

V_o	I_o	P_o

blocked rotor test:

V	I	P

PRECAUTIONS

1. Avoid loose connections in the circuit.
2. Readings should be taken without paralox error.

RESULTS