

EXPERIMENT-4

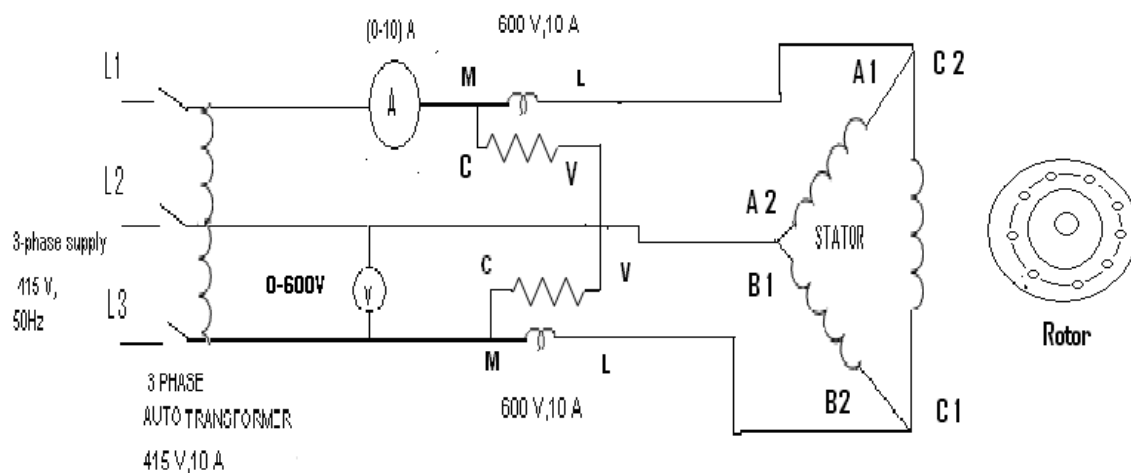
OBJECTIVE

To study the performance of the 3-phase induction motor by no load test and blocked rotor test also draw its equivalent circuit.

APPARATUS

- (1) 3-Phase induction motor
- (2) 3-phase auto transformer
- (3) Wattmeter-2No.(10A,600V)
- (4) Voltmeter-1No.(600V)
- (5) ammeter-1 No.(10 A)
- (6) Loading system

CIRCUIT DIAGRAM



PROCEDURE

NO LOAD TEST:

- (i) Connect the circuit as per the circuit diagram.
- (ii) Make the belt free such that the rotor rotates freely
- (iii) Start the motor, set the voltage in the voltmeter.
- (iv) Gradually increase the voltage and obtain the reading for rated voltage.
- (v) Take the readings for current, power and applied voltage.

- (vi) Measure the no load losses, W_0

BLOCKED ROTOR TEST:

- (i) Connect the circuit as per the circuit diagram.
- (ii) The belt is tightened so that the rotor doesn't rotate.
- (iii) Apply a reduced voltage up to 20% of rated voltage or set the rated current in the ammeter.
- (iv) Take the reading for voltage, current and power.
- (v) Gradually increase the voltage, with the stator current 1.2 times the rated current.

OBSERVATIONS

No load test:

S.NO	INPUT VOLTAGE	INPUT CURRENT	INPUT POWER		$W_0=W_1+W_2$
			W1	W2	

Blocked rotor test:

S.NO	INPUT VOLTAGE	INPUT CURRENT	INPUT POWER		$W_0=W_1+W_2$
			W1	W2	

PRECAUTIONS

- (i) Loose connections should be avoided.
- (ii) Readings are noted without any parallax error.

RESULTS