



**OMEGA TYPE 20 105** Three Phase Synchronous Motor Lab is an adaptable Training System for the Electrical Laboratories. The product helps in getting fully acquainted with the basic concepts, functioning and operating principle of a Three Phase Synchronous Motor. The product includes experiment such as V and inverse V curve of synchronous motor. For engineering students it is important to know how the variation of field current can affect the power factor of the Synchronous Motor and hence improve the system's performance.

Separate terminals of windings brought out on a terminal box fitted on top of the motor so that one can connect them separately to the control panel and can perform experiment correspondingly. All protection circuits are in built. So there is very less chance of fault or danger to user. The varied scope of learning makes the subject easily understandable.

#### OBJECT

- 01 To study the V curve of Three Phase Synchronous Motor
- 02 To study the Inverse V curve of the Three Phase Synchronous Motor

#### FEATURES

- 01 Flexible Shaft Coupling Arrangement
- 02 Wattmeter being used for better precision
- 03 Equipped with supply indication lamps
- 04 Provided with Digital Tachometer
- 05 Machine with Class "B" Insulation
- 06 Heavy Duty Base/Channel
- 07 Designed by considering all the safety standards
- 08 Diagrammatic representation for the ease of connections
- 09 Exclusive and Attractive Design

#### TECHNICAL SPECIFICATION

Mains Supply : Three Phase, 415V±10%, 50Hz

#### Machines Specification (2 Nos.)

Both the Machines are flexibly coupled and mounted on a M.S. channel base

#### THREE PHASE SYNCHRONOUS MOTOR

Type	: Salient Pole
Rating	: 1 HP
Voltage rating	: 415V ±10%
Speed	: 1500 RPM
Insulation	: Class 'B'
Excitation Voltage	: 220V

#### DC Machine (Acts as generator)

Type	: Shunt
Rating	: 0.6KW
Voltage Rating	: 200V
Speed	: 1500 RPM (no load)
Insulation	: Class 'B'

#### Digital Meters 3½ Digit Used

AC Ammeter	: 10A
DC Ammeter	: 2A
AC Voltmeter	: 500V
DC Voltmeter	: 300V
Digital Wattmeter 2 Nos.:	250V at 5Amp. Total 1250Watt

MCB (TPN)	: 10A
Dimensions panel	: L600 x H450 x D350mm
Dimension MG set	: L900 x H400 x D250 mm
Weight panel	: 18.5kg (approximate)
Weight MG Set	: 106kg (approximate)

#### LIST OF ACCESSORIES:

- 01 Shrouded Patch cord 4mm length 50/100cm  
Red.....17
- 02 Shrouded Patch cord 4mm length 50/100cm  
Black.....17
- 03 Digital Tachometer .....01

#### OTHER APPARATUS REQUIRED:

- 01 Three phase variac Input 0-415 V  
Output 0-470 V current 10 Amp
- 02 DC Power Supply Omega TYPE 20 201.
- 03 Resistive Load Omega TYPE 20 202 or 20 203

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice.

## OMEGA ELECTRONICS