



SALIENT FEATURES :

- 01 Facilitates easy and safe wiring by students due to use of 4mm sturdy Shrouded banana patch cords & shrouded socket arrangements.
- 02 All machines are mounted on finely painted sturdy base frame with easy machine interchangeability. Use of gear coupling facilitates screw less coupling. interchangeability. Use of gear coupling facilitates screw less coupling.
- 03 With due emphasis on student safety machines operate up to 300W power levels and upto 1500 RPM, without compromising on didactic use. Able to draw all graphs.
- 04 Trunnion mounted DC Integrated machine is used as Dynamometer for loading other machines (Motors / generators both); unlike magnetic powder brake or eddy current brake which can load only coupled Motors and not generators, with facility to measure shaft power using electronic torque / speed Measurement

Continues-1/10

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OMEGA ELECTRONICS

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Panels Provided

01	Aluminum Machine trainer Rack.....	20300	Qty.1
02	Input 3 phase DOL Starter panel.....	20301	Qty.1
03	Multifunction Meter (Single Phase/Three Phase AC 50Hz).....	20302	Qty.2
04	FWD/REV, Star-Delta starter panel.....	20303	Qty.1
05	Rotor Resistor Cum 3Phase Synchronous Motor Control.....	20304	Qty.1
06	1 Phase Motor, Alternator & Sync. Motor.....	20305	Qty.1
07	DC voltmeter & Ammeter and Torque Measurement Meter.....	20306	Qty.2
08	Variable DC Power Supply.....	20307	Qty.2
09	Input Single Phase DOL Starter Panel AC DC Fix / Variable Supply.....	20308	Qty.2
10	AC Load Resistor.....	20309	Qty.1
11	DC Load Resistor.....	20310	Qty.1
12	AC Load Inductor.....	20311	Qty.1
13	Capacitive (C) Load.....	20312	Qty.1
14	Lamp Load.....	20313	Qty.1
15	Synchroscope / 3 Phase Alternator Synchronizer.....	20314	Qty.1
16	Extension Board.....	20315	Qty.1

Motors Provided

01	DC Integrated (Trunion Mounted) Motor.....	20501	Qty.2
02	3 Phase AC Integrated Motor.....	20502	Qty.2
03	3 Phase Salient Pole Alternator.....	20503	Qty.1
04	1 Phase. Synchronous Motor.....	20504	Qty.1
05	1 Phase AC Integrated Motor.....	20505	Qty.1
06	Universal Motor.....	20506	Qty.1
07	DC Integrated (Foot mounted) Motor.....	20509	Qty.1
08	1 Phase AC Integrated Motor (20505) with loading arrangement.....	20510	Qty.1
09	3 Phase AC Integrated Motor (20502) with loading arrangement	20511	Qty.1
10	3 Phase Squirrel Cage Induction Motor (20508) with loading arrangement... ..	20512	Qty.1
11	Repulsion Motor (20507) with loading arrangement.....	20513	Qty.1

Accessories Provided

01	Hand held digital Tachometer.....	01
02	Shrouded connecting leads 4mm 50cm Red.....	20
03	Shrouded connecting leads 4mm 50cm Black.....	20
04	Shrouded connecting leads 4mm 100cm Red.....	20
05	Shrouded connecting leads 4mm 100cm Black.....	20

DC MOTOR COUPLED 3PH. AC MOTOR TRAINER (20601)

Provided- Panels: 20300 to 20304, 20306 to 20310, 20315 Motors:20501, 20502 & Accessories

Name of the Experiments

- Experiment – 01 speed torque curve of DC shunt motor with 3 phase AC integrated motor
- Experiment – 02 speed torque curve of DC series motor with 3 phase AC integrated motor
- Experiment – 03 speed torque curve of separately excited DC motor with 3 phase AC integrated motor
- Experiment – 04 speed torque curve of DC compound motor with 3 phase AC integrated motor
- Experiment – 05 v-i efficiency curve of DC shunt generator with 3 phase AC integrated motor
- Experiment – 06 v-i efficiency curve of DC series generator with 3 phase AC integrated motor
- Experiment – 07 v-i efficiency curve of separately excited DC generator with 3 phase AC integrated motor

Continues-2/10

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- Experiment – 08 v-i efficiency curve of DC compound generator with 3 phase AC integrated motor
- Experiment – 09 v-i efficiency curve of occ of shunt generator with 3 phase AC integrated motor
- Experiment – 10 speed torque curve of would rotor induction motor with rotor shorted and with Different rotor resistance
- Experiment – 11 DOL starter
- Experiment – 12 Star delta starter
- Experiment – 13 Rotor resistance starter
- Experiment – 14 Application of synchronous motor as pf improvement device-v curves
- Experiment – 15 Synchronous generator v-i curves

DC MOTOR COUPLED 3PH. SALIENT MOTOR TRAINER (20602)

Provided- Panels: 20300 to 20303, 20306 to 20312, 20315 Motors:20501, 20503 & Accessories

- Experiment – 16 speed torque curve of DC shunt motor with 3 phase salient motor
- Experiment – 17 speed torque curve of DC series motor with 3 phase salient motor
- Experiment – 18 Speed torque curve of separately excited DC motor with 3 phase salient motor
- Experiment – 19 Speed torque of DC compound motor with 3 phase salient motor
- Experiment – 20 v-i efficiency curve of DC shunt generator with 3 phase salient motor
- Experiment – 21 v-i efficiency curve of DC series generator with 3 phase salient motor
- Experiment – 22 v-i efficiency curve of DC separately excited generator with 3 phase salient motor
- Experiment – 23 v-i efficiency curve of DC compound generator with 3 phase salient motor
- Experiment – 24 v-i efficiency curve of occ of shunt generator with 3 phase salient motor
- Experiment – 25 Speed torque of 3ph. synchronous motor
- Experiment – 26 Efficiency and input power measurement 3ph. synch. motor
- Experiment – 27 Study of 'v' curve and inverted 'v' curve
- Experiment – 28 output volt-amp characteristics of synchronous generator
- Experiment – 29 Efficiency of synchronous generator
- Experiment – 30 Performance of R, L, and C load

DC MOTOR COUPLED 1PH. AC MOTOR TRAINER (20603)

Provided- Panels: 20300, 20302, 20305 to 20308, 20313, 20315 Motors:20501, 20505 & Accessories

- Experiment – 31 speed torque curve of DC shunt motor with 1 phase AC integrated motor
- Experiment – 32 speed torque curve of DC series motor with 1 phase AC integrated motor
- Experiment – 33 Speed torque curve of separately excited DC motor with 1 phase AC integrated motor
- Experiment – 34 Speed torque of DC compound motor with 1 phase AC integrated motor
- Experiment – 35 v-i efficiency curve of DC shunt generator with 1 phase AC integrated motor
- Experiment – 36 v-i efficiency curve of DC series generator with 1 phase AC integrated motor
- Experiment – 37 v-i efficiency curve of DC separately excited generator with 1 phase AC integrated motor
- Experiment – 38 v-i efficiency curve of DC compound generator with 1 phase AC integrated motor
- Experiment – 39 v-i efficiency curve of occ of shunt generator with 1 phase AC integrated motor
- Experiment – 40 speed torque curve of split phase induction motor
- Experiment – 41 speed torque curve for CSIR
- Experiment – 42 Speed torque curve of CSCR

Continues-3/10

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DC MOTOR COUPLED 1PH. SYNCH. MOTOR TRAINER (20604)

Provided- Panels: 20300, 20302, 20305 to 20309, 20311 to 20313, 20315 Motors:20501, 20504 & Accessories

- Experiment – 43 speed torque curve of DC shunt motor with 1 phase synchronous motor
- Experiment – 44 speed torque curve of DC series motor with 1 phase synchronous motor
- Experiment – 45 Speed torque curve of separately excited DC motor with 1 phase synchronous motor
- Experiment – 46 Speed torque of DC compound motor with 1 phase synchronous motor
- Experiment – 47 v-i efficiency curve for DC shunt generator with 1 phase synchronous motor
- Experiment – 48 v-i efficiency curve for DC series generator with 1 phase synchronous motor
- Experiment – 49 v-i efficiency curve for DC separately excited generator with 1 phase synchronous motor
- Experiment – 50 v-i efficiency curve for DC compound generator with 1 phase synchronous motor
- Experiment – 51 v-i efficiency curve for occ of shunt generator with 1 phase synchronous motor
- Experiment – 52 Speed torque curve of synchronous motor
- Experiment – 53 Efficiency and input power factor measurement of 1ph. synch. Motor.
- Experiment – 54 Study of 'V' curve of 1ph. synch. Motor.
- Experiment – 55 Out volt-amp characteristics of synchronous motor
- Experiment – 56 Efficiency of synchronous generator.
- Experiment – 57 Performance with R, L and C load.

DC MOTOR COUPLED WITH UNIVERSAL MOTOR TRAINER (20605)

Provided- Panels: 20300, 20302, 20306 to 20308, 20310 to 20313, 20315 Motors:20501, 20506 & Accessories

- Experiment – 58 speed torque curve of DC shunt motor with universal motor
- Experiment – 59 speed torque curve of DC series motor with universal motor
- Experiment – 60 Speed torque curve of separately excited DC motor with universal motor
- Experiment – 61 Speed torque of DC compound motor with universal motor
- Experiment – 62 v-i efficiency curve for DC shunt generator with universal motor
- Experiment – 63 v-i efficiency curve for DC series generator with universal motor
- Experiment – 64 v-i efficiency curve for DC separately excited generator with universal motor
- Experiment – 65 v-i efficiency curve for DC compound generator with universal motor
- Experiment – 66 v-i efficiency curve for occ of shunt generator with universal motor
- Experiment – 67 Speed torque curve of universal motor when operated with 180VDC
- Experiment – 68 Study of efficiency of universal motor for various loading condition.

DC MOTOR COUPLED WITH DC MOTOR TRAINER (20606)

Provided- Panels: 20300, 20306 to 20308, 20310, 20313,20315 Motors:20501,20509 & Accessories

- Experiment – 69 Speed torque curve and efficiency of DC shunt motor with DC motor
- Experiment – 70 Speed torque curve and efficiency of DC series motor with DC motor
- Experiment – 71 Speed torque curve and efficiency of separately excited DC motor with DC motor
- Experiment – 72 Speed torque curve and efficiency of DC compound motor with DC motor
- Experiment – 73 Output volt-amp characteristics of DC shunt generator with DC motor
- Experiment – 74 Efficiency of DC shunt generator with DC motor
- Experiment – 75 Output volt-amp characteristics of DC separately excited generator with DC motor
- Experiment – 76 Efficiency of DC separately excited generator with DC motor
- Experiment – 77 Output volt-amp characteristics of DC series generator with DC motor

Continues-4/10

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SYNCHRONIZATION/PARALLELING OF 2 THREE PHASE ALTERNATOR TRAINER (20607)

Provided- Panels: 20300,20301, 20302/2, 20303, 20304, 20306/2, 20307/2, 20308/2, 20309, 20310, 20314, 20315 Motors:20501/2, 20502/2, & Accessories

- Experiment – 78 speed torque curve of DC shunt motor with 3 phase AC integrated motor
- Experiment – 79 speed torque curve of DC series motor with 3 phase AC integrated motor
- Experiment – 80 Speed torque curve of separately excited DC motor with 3 phase AC integrated motor
- Experiment – 81 Speed torque of DC compound motor with 3 phase AC integrated motor
- Experiment – 82 v-i efficiency curve for DC shunt generator with 3 phase AC integrated motor
- Experiment – 83 v-i efficiency curve for DC series generator with 3 phase AC integrated motor
- Experiment – 84 v-i efficiency curve for DC separately excited generator with 3 phase AC integrated motor
- Experiment – 85 v-i efficiency curve for DC compound generator with 3 phase AC integrated motor
- Experiment – 86 v-i efficiency curve for occ of shunt generator with 3 phase AC integrated motor
- Experiment – 87 Speed torque curve of wound rotor induction motor with rotor shorted and with different Rotor resistance.
- Experiment – 88 DOL/Star-delta starter, rotor resistance starter.
- Experiment – 89 Application of sync. Motor as pf improvement device-V curve.
- Experiment – 90 Synchronous generator V-I curves.
- Experiment – 91 Dark lamp method[all lamps are dark]
- Experiment – 92 Bright lamp method[all lamps are bright]
- Experiment – 93 1 Dark 2 Bright lamp method.

1 PHASE AC INDUCTION MOTOR TRAINER (20608)

Provided- Panels: 20300, 20302, 20305, 20315, Motors: 20510 & Accessories

- Experiment – 94 Study of speed-torque characteristics of single phase induction motor (split phase type).
- Experiment – 95 Study of efficiency and input power factor of 1phase induction motor (split phase type) for various loading conditions.
- Experiment – 96 Study of speed-torque characteristics of single phase induction motor (capacitor start type).
- Experiment – 97 Study of efficiency and input power factor of 1phase induction motor (capacitor start type) for various loading conditions.
- Experiment – 98 Study of speed-torque characteristics of single phase induction motor (capacitor start-run Type).
- Experiment – 99 Study of efficiency and input power factor of 1phase induction motor (capacitor start-run type) for various loading conditions.
- Experiment – 100 Study of "No Load Test" and "Blocked Rotor Test ". on 1 phase Induction Motor.

3 PHASE AC SLIP RING INDUCTION MOTOR TRAINER (20609)

Provided- Panels: 20300 to 20304, 20306 to 20308, 20315 Motors: 20511 & Accessories

- Experiment – 101 Speed torque characteristics of 3 ph. wound rotor induction motor with variable rotor Resistance.
- Experiment – 102 Efficiency of input power factor measurement of 3 ph. wound rotor induction motor.
- Experiment – 103 Speed torque characteristics of 3 ph. short-circuited rotor induction motor.

Continues-5/10

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- Experiment – 104 Efficiency of input power factor measurement of 3 ph. short-circuited rotor Inductions motor.
- Experiment – 105 Speed torque charACteristics of 3 ph. synchronous motor.
- Experiment – 106 Efficiency of input power factor measurement of 3 ph. synchronous motor.
- Experiment – 107 Use of synchronous motor as power factor improvement device. study of 'v' curves
- Experiment – 108 Study of Direct On Line (DOL) starter for three phase induction motor.
- Experiment – 109 Study of star delta-starter for 3 ph. induction motor.
- Experiment – 110 Study of rotor resistance starter for three phase wound rotor induction motor.
- Experiment – 111 Study of direction of reversal for 3 phase induction motor.

3 PHASE SQUIRREL CAGE INDUCTION MOTOR TRAINER (20610)

Provided- Panels: 20300 to 20304, 20308, 20315 Motors: 20512 & Accessories


- Experiment – 112 Speed torque charACteristics of 3 phase squirrel cage induction motor.
- Experiment – 113 Efficiency, % slip and input power factor measurement of 3 phase squirrel cage induction motor.
- Experiment – 114 Speed control of squirrel cage induction motor by pole changing method.
- Experiment – 115 'No Load Test' & 'Blocked Rotor Test' on 3 ph. squirrel cage induction motor.

REPLUTION MOTOR TRAINER (20611)

Provided- Panels: 20300, 20302, 20306 to 20308, 20310, 20315 Motors: 20513 & Accessories

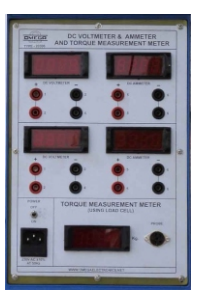
- Experiment – 116 Study of speed torque characteristics of Repulsion motor.
- Experiment – 117 Study of efficiency and input power factor measurement of single phase Repulsion motor.
- Experiment – 118 Speed control and reversal of direction of rotation of repulsion motor.

Technical Specification of Panels




INPUT 3 PHASE DOL STARTER PANEL
TYPE-20 301

- 1 MCB 4 pole 4Amp.
- 2 DOL 9A Contactor with 415V / 50 Hz / 11VA COIL .
- 3 RYB Indicator
- 4 Emergency Switch
- 5 Shrouded socket 8Nos.
- 6 Push button switch for Stop/Start




DC VOLTMETER & AMMETER WITH TORQUE MEASUREMENT METER
TYPE-20 306

- 1 TWO DPM DC voltmeter (0-1000V)
- 2 TWO DPM DC Ammeter (0-20A)
- 3 Torque Measurement Meter
- 4 Shrouded socket 16Nos.



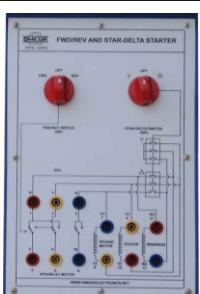
MULTIFUNCTION METER (Single Phase/ Three Phase AC 50Hz)
TYPE-20 302

- 1 Bidirectional Multifunction Meter
- 2 3 Phase 4 wire, 440V, Current 5A
- 3 LED display,
- 4 Aux supply 230V, 45-65Hz, 5W
- 5 To measure parameters ie Voltage Current., KVA,Frequency, Power factor, Active Power (W),Reactive Power (vary) etc.
- 6 Shrouded socket 08Nos. etc.




VARIABLE DC POWER SUPPLY
TYPE-20 307

- 1 Half bridge SCR based 0V-200V / 3 Amp cosine firing with linear characteristics, 3 Nos. Switch SPDT to On/Off with indication
- 2 Three Nos. of these supplies required for DC Armature, DC motor field and AC generator field.
- 3 Shrouded socket 8Nos.



FWD/REV AND STAR-DELTA STARTER PANEL
TYPE-20 303

- 1 FWD/REV, 3 pole 3 way Switch with centre OFF, 10A/440V.
- 2 Star/Delta switch 3 pole, 3 way with centre OFF, 10A/440V.
- 3 Shrouded socket 12Nos.



INPUT SINGLE PHASE DOL STARTER PANEL AC DC FIX / VARIABLE SUPPLY
TYPE-20 308


- 1 MCB 2 pole 10A with indicator
- 2 Emergency Switch
- 3 Push button switch for Stop/Start
- 4 DOL 9A Contractor with 230V / 50 Hz / 11VA Coil .
- 5 Shrouded socket 4Nos.

Variable AC Supply (0-200V)

- 1 Shrouded socket 6Nos.


Fix/Variable DC Supply (0-200V)

- 1 Shrouded socket 4Nos.




ROTOR RESISTOR CUM 3PHASE SYNCHRONOUS MOTOR CONTROL
TYPE-20 304

- 1 Rotor resistors of 30E/5A with 3 taps of 15E, 21E, 30E each - 3 Nos.
- 2 Rotor resistor selector switch, 3 pole. 6 Way 10A/440V.
- 3 DC Rotor excitation with circuit breaker (3Amp)
- 4 Shrouded socket 7Nos.




AC LOAD RESISTOR
TYPE-20 309

- 1 AC Resistors 10K/5K/3.5K/2.5K/2K/1.5K/OFF 200W x 3 phases/ 6 taps
- 2 Load Resistance switch 3 POL 7 Way/10Amp.
- 3 Cooling Fan size 4" 230V Operated
- 4 Shrouded socket 12Nos.



1 PH. MOTOR, ALTERNATOR & SYNC. MOTOR
TYPE-20 305

- 1 1 ph. MCBs of 4A/1.6A 1 each.
- 2 2 no. 2P2W selector switches to run as 1ph. Alternator then as synchronous motor.
- 3 2A push button switch to simulate as centrifugal switch.
- 4 1 Lamp load holder with lamp
- 5 Shrouded socket 14Nos.



DC LOAD RESISTOR
TYPE-20 310

- 1 750E/600E/300E/212E/162E/125E/112E/100E/400W /8 taps + OFF + separate 60E tap For DC series Gen.
- 2 Load Resistance switch 3 POL 7 Way/10Amp.
- 3 Cooling Fan size 4" 230V Operated
- 4 Shrouded socket 6Nos.

Continues-7/10

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Technical Specification of Panels

**AC LOAD INDUCTOR
TYPE-20 311**

- 1 Inductive load =0.15H/0.3H/ 0.45H/0.6H/0.75H/1.5H/3H/ 400mA X 3Nos.
- 2 Load inductor switch 3 Pole 7 Way/10Amp.
- 3 Shrouded socket 12Nos.

**AC VOLTMETER & AC AMMETER AND REVERSING SWITCH
TYPE-20 316**

- 1 Two Digital AC Voltmeter 3½ Digit having Dual range of 0-200V / 600V
- 2 Two Digital AC Ammeter 3½ Digit having Dual range of 0-2A / 20A
- 3 Four DPDT Switches for Dual DPM
- 4 Reversing Switch
- 5 Power socket for AC I/P
- 6 Power on off Switch
- 7 Shrouded socket 20Nos

**CAPACITIVE (C) LOAD
TYPE-20 312**

- 1 Capacitive load =1.25μF /2.5mF/5mF/440VX 3Nos
- 2 Shrouded socket 18Nos.

**DIGITAL WATTMETER
TYPE-20 317**

- 1 Two Digital Wattmeter having range of 0-250V, 0-5Amp. = 1250W Aux. supply 230V.
- 2 Power socket for AC I/P
- 3 Power on off Switch
- 4 Shrouded socket 12Nos

**LAMP LOAD
TYPE-20 313**

- 1 3 Nos. Lamp 100W with Holder & switch
- 2 Shrouded socket 12Nos.

**PHASE SEQUENCE & VIF / PF METER
TYPE-20 318**

- 1 Phase Sequence meter Operating Voltage 110v ± 20%
- 2 Digital Power factor meter (VIF / PF) 230V 5Amp.
- 3 Power socket for AC I/P
- 3 Power on off Switch
- 4 Shrouded socket 9 Nos

**SYNCHROSCOPE /3 PH. ALTERNATORS SYNCHRONIZING
TYPE-20 314**

- 01 Synchroscope:- Rotating light meter with 28 LED on a circular scale and a zero voltage differential indication with 2 LED
- 02 3 Phase Alternator Synchronizing
- 03 Synchronization indication for qualitative indication of the phase relationship between mains and voltage of the generator

ALUMINUM FRAME - MODULAR PANELS TYPE-20 300.

Electrical motor trainer rack made up aluminium profile size 40×40mm, foldable and light in weight 10 panel setup can be interchange conveniently to perform experiments. Dimension Length 1100×Height 1000×Depth 350mm.

**EXTENSION BOARD
TYPE-20 315.**

- 1 Operating Voltage 230VAC ± 10% at 50Hz
- 2 ON OFF Switch with indicator
- 3 Eight Nos. five pin 5 Amp Electrical Sockets

Continues-8/10

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Technical Specification of Motors



DC INTEGRATED (TRUNION MOUNTED) MOTOR - TYPE-20 501

Voltage : $V_{arm} = 180V$ $V_{field} = 180V$

Capacity -300W/2 Pole m/c, **RPM** - 1500, **Shrouded Socket** - 12

Rotor Construction: Standard commutator / brush arrangement with laminated stack, brought out on 2 terminals

Stator construction : Separately excited field winding with laminated solid yoke 2 pole and series winding brought out on 4 terminals.

Toeque characteristic: Provision of load cells 6 Kg. 2 No. assembly to measure the torque .



3 PHASE AC INTEGRATED MOTOR - TYPE-20 502

Voltage : 415VAC, 50Hz

Capacity -300W/4 Pole m/c, **RPM** - 1500, **Shrouded Socket** - 18

Rotor Construction : Star connected, four terminals including star point brought out on 4 slip rings mounted on shaft.

Stator construction : Six terminals to be brought out to start the motor using STAR-DELTA starter.



3 PHASE SALIENT POLE ALTERNATOR - TYPE-20 503

Voltage : 415VAC, 50Hz

Capacity -300W/4 Pole m/c, **RPM** - 1500, **Shrouded Socket** - 12

Rotor Construction : Star connected, four terminals including star point brought out on 4 slip rings mounted on shaft.

Stator construction : Separately excited field winding with laminated solid yoke, 4 pole brought out on 2 terminals



1 PHASE. SYNCHRONOUS MOTOR - TYPE-20 504

Voltage : 230 VAC, 50Hz

Capacity -300W/4 Pole m/c, **RPM** - 1500, **Shrouded Socket** - 8

Rotor Construction : Single phase wound rotor with terminals brought out on two slip rings mounted on shaft.

Stator construction : One winding will be used to configure synchronous motor & Alternator output when used as single phase generators.



1 PHASE AC INTEGRATED MOTOR - TYPE-20 505

Voltage : 230 VAC, 50Hz

Capacity -300W/4 Pole m/c, **RPM** - 1500 **Shrouded Socket** - 18

Rotor Construction : Diecast Squirrel cage motor

Stator construction : Two windings brought out on 4 terminals for main and auxilliary. These will be used to configure different motors Split phase, CSCR, CSIR.

Continues-9/10

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UNIVERSAL MOTOR - TYPE-20 506

Voltage : 230 VAC, 50Hz / 150VDC

Capacity - 300W/4 Pole m/c, **RPM - 1500, Shrouded Socket - 8**

Rotor Construction : Standard commutator brush arrangement brought out on 4 terminals

Stator construction : Stator brought out on 4 terminals to facilitate AC/DC operation and direction change. Built in compensating winding to minimize AR and sparking.



REPULSION MOTOR - TYPE-20 507

Voltage : 230 VAC, 50Hz

Capacity - 300W/4 Pole m/c, **RPM - 1500, Shrouded Socket - 4**

Rotor Construction : Standard commutator brush but short circuited.

Stator construction : Stator brought out on 4 terminals. Settable handle to rotate brush position w.r.t. Neutral axis.



3 PHASE SQUIRREL CAGE INDUCTION MOTOR - TYPE-20 508

Voltage : 415 VAC, 50Hz

Capacity - 300W/4 Pole m/c, **RPM - 1500, Shrouded Socket - 12**

Rotor Construction : Diecast Squirrel cage motor

Stator construction : 6x2 terminals brought out to run machine at two speeds using pole changing method (Dahellander Winding)



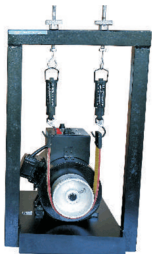
DC INTEGRATED (FOOT MOUNTED) MACHINE - TYPE-20 509

Voltage : $V_{arm} = 180V$ $V_{field} = 180V$

Capacity - 300W/4 Pole m/c, **RPM - 1500, Shrouded Socket - 12**

Rotor Construction: Standard commutator / brush arrangement with laminated stack, brought out on 2 terminals

Stator construction : Separately excited field winding with laminated solid yoke 2 pole and series winding brought out on 2 terminals.



- 1 PHASE AC INTEGRATED MOTOR)20505(with loading arrangement.....TYPE-20510
- 3 PHASE AC INTEGRATED MOTOR)20502(with loading arrangement.....TYPE-20511
- 3 PHASE SQUIRREL CAGE INDUCTION MOTOR)20508(with loading arrangement...TYPE-20512
- REPULSION MOTOR)20507(with loading arrangement.....TYPE-20513
- UNIVERSAL MOTOR (20506) with loading arrangement.....TYPE-20514

Continues-10/10

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