



Low Power AC/DC Motor Test Systems

PHENIX Technologies offers a complete line of motor test systems for AC, DC, synchronous and traction motors designed to test a wide range of horse-power and voltage classes. Many other applications requiring a continuously variable AC or DC power supply can also be satisfied by one of these units in an appropriate configuration.

TESTING APPLICATIONS

Designed to provide test capability for smaller motors quickly and accurately

50-200 kVA

- Economical testing capability for the small motor repair division or shop
- All controls and instrumentation contained in a single, industrial grade cabinet
- Safety and protective features for complete load or no-load testing



Model MTS50NVD



Model MTS100R-75



Specifications are subject to change without notice.

Brochure No. 50204

TAP START MODEL 50 kVA

MTS50NVD

	MODEL	MTS50NVD			
INPUT	Voltage	208, 220, 230, 240, or 480 VAC (one must be specified)			
	Current	200/100 A, 3 phase, Frequency 50 or 60 Hz (one must be specified)			
AC OUTPUT	TAP	Low Range		High Range	
	1	30 VAC	400 AAC	60 VAC	400 AAC
	2	100 VAC	200 AAC	208 VAC	200 AAC
	3	115 VAC	200 AAC	230 VAC	190 AAC
	4	230 VAC	100 AAC	460 VAC	95 AAC
	5	277 VAC	100 AAC	575 VAC	75 AAC
	DUTY CYCLE	1 hour ON / 1 hour OFF at 50 kVA			
DC OUTPUT	TAP	ARMATURE SUPPLY			
		Low Range		High Range	
	1	40 VDC	100 ADC	80 VDC	100 ADC
	2	140 VDC	100 ADC	280 VDC	100 ADC
	3	155 VDC	100 ADC	310 VDC	100 ADC
	4	310 VDC	100 ADC	620 VDC	100 ADC
	5	375 VDC	100 ADC	750 VDC	100 ADC
		FIELD SUPPLY			
	0-300 VDC, 10 ADC				
	NOTE	Output voltage may vary with load conditions and line fluctuations.			
DIMENSIONS & WEIGHT	Length	38" (965 mm)			
	Width	26" (660 mm)			
	Height	53" (1346 mm)			
	Weight	1175 lbs (533 kgs)			

Electric motors are a key component in most industrial applications. They account for about 66% of all the energy used in industrial applications with a lifetime energy cost totaling many times the original motor cost. Motor failures can lead to even higher cost in terms of lost production and efficiency. Industrial companies need effective motor management strategies to minimize overall motor cost. Motor rewinding by a well-equipped service facility reduces capital expenditures on motors while assuring reliable operation. The Phenix Technologies line of small motor test systems are the quality control center of a modern motor rewind and repair facility which insures rebuilt motor efficiency and quality.

SAFETY and DESIGN FEATURES

- Tapped, non-variable AC and armature outputs to start and run AC or DC motors
- Complete instrumentation is provided for precise measurement of electrical characteristics of motors under test (3-phase metering). 4½" analog meters with accuracy +/-2% Full Scale are used for voltage and current. The AC Ammeter is 3½ digit digital meter with accuracy +/-1% Full Scale.
- Variable field supply
- Fused input power protection
- On / Off pushbuttons with indicator
- Flashing red warning lamp
- Thermal overload protection on main transformer
- Manual tap selector switch
- AC/DC output selector switch
- 15' (4.5 m) output cables with storage hook
- Two copies of operation/maintenance manual



VARIABLE VOLTAGE MODELS 100-200 kVA

MODEL		MTS100R-75	MTS200R-150
APPROXIMATE MAXIMUM TEST CAPABILITY	AC MOTORS	Load	100 HP
		No-Load	500 HP
	DC MOTORS	Load	90 HP
		No-Load	360 HP
Note: Actual capability may vary with motor design.			
INPUT	Voltage / Current	400 VAC, 160 A, 3-phase 415 VAC, 150 A, 3-phase 480 VAC, 130 A, 3-phase 600 VAC, 105 A, 3-phase (one must be specified)	400 VAC, 320 A, 3-phase 415 VAC, 300 A, 3-phase 480 VAC, 260 A, 3-phase 600 VAC, 210 A, 3-phase (one must be specified)
	Frequency	50 or 60 Hz (one must be specified)	
AC OUTPUT	VOLTAGE	100 kVA	200 kVA
	TAP	Voltage / Current	
	1	≈0-120 VAC, 400 A	≈0-120 VAC, 400 A
	2	≈0-240 VAC, 240 A	≈0-240 VAC, 400 A
	3	≈0-480 VAC, 120 A	≈0-480 VAC, 240 A
4	≈0-600 VAC, 96 A	≈0-600 VAC, 192 A	
DC OUTPUT	ARMATURE	75 kW	150 kW
	TAP	Voltage / Current	
	1	≈0-125 VDC, 300 A	≈0-125 VDC, 400 A
	2	≈0-250 VDC, 300 A	≈0-250 VDC, 400 A
	3	≈0-550 VDC, 125 A	≈0-550 VDC, 270 A
FIELD SUPPLY	≈0-300 VDC, 10 A		
DUTY CYCLE		1 hour ON / 1 hour OFF at 100% of rated kVA 2 minutes at 200% of rated AC current to provide the high inrush current needed to start large motors	
DIMENSIONS & WEIGHT	Length	68" (1730 mm)	68" (1730 mm)
	Width	52" (1321 mm)	52" (1321 mm)
	Height	74" (1880 mm)	74" (1880 mm)
	Weight	3200 lbs (1452 kgs)	4200 lbs (1905 kgs)

WINMTS Software Meters Screen Display and Sample Test Report



Phenix Technologies						
Customer: Phenix Technologies			Contact: Kevin Marguff			
75 Spicher Drive Accident, MD 21520			Phone: 301-746-8118			
Job Number: Snp2011			Date: 9/29/2009 2:33:08 PM			
Serial No: 300-0204-71			Voltage: 480			
Manufacturer: Toshiba			Current: 116			
Model No: Vertical Pump			Horsepower: 95			
Type: 1 Phase Synchronous			RPM: 1800			
Frames: 1 Type(D)			Power Factor: 0.987			
Enclosure: Steel			Efficiency: 0.759			
Poles: A, B, C			Field V: Field A:			
	0 %	25 %	50 %	75 %	100 %	150 %
A-B VOLTS	460	462	461	459	458	456
B-C VOLTS	459	460	460	460	460	460
C-A VOLTS	461	461	461	461	460	460
A AMPS	87.9	99.3	99.3	119.3	137.1	137.1
B AMPS	65.7	99.9	99.9	119.9	119.9	119.9
C AMPS	69.3	99.9	99.9	120.2	137.9	137.9
Kwatts	10.2	34.7	67.3	64.5	64.5	64.5
RPM	1800	1768	1763	1775	1775	1775
H.P.	0	44.8	74.7	116.4	116.4	116.4
TORQUE	0	201	312	396	396	396
EFFICIENCY	0.189	0.436	0.628	0.775	0.775	0.775
P.F.	NA	0.963	0.973	0.973	0.973	0.973
Notes: This is a sample load test report						
Tested By: _____			Date: _____			

+1.301.746.8118

SAFETY and DESIGN FEATURES

- The AC supply includes four output voltage taps. The output on each tap is continuously adjustable from near zero to 100% of tap rating
- The DC armature and field supplies are adjustable from near zero to 100% of rating.
- Complete instrumentation is provided for precise measurement of electrical characteristics of motors under test (3-phase metering, VM, CM, WATT, VARS, KVA, POWER FACTOR). All meters are 4-digit LCD display and accuracy +/-1.0% Full Scale.
- USB Output Metering Interface to customer supplied compatible computer. Includes Windows based test software.
- Non-Contact Tachometer (RPM Meter)
- Main Circuit Breaker, Transient Protection, Output Overload Detection Circuits, Zero Start Interlock and Ground Fault Detection are standard features.
- The cabinet is provisioned for lifting via forklift or crane.
- Each unit is equipped with a flashing red lamp when output is energized, external interlock and warning circuit provisions
- Jacks for twist-lock plugs are used on the AC and DC armature supplies with 15' (4.5 m) output cables.
- Two copies of operation/maintenance manual



Other motor testing products PHENIX offers:

- High Power Motor Test Systems
- Core Loss Testers
- AC Hipots
- DC Hipots
- Water-Brake Dynamometers
- Insulation Analyzers
- Megohmmeters
- Microhmmeters



PHENIX Technologies is committed to providing leadership, innovation, technology, quality, and service in all areas of our business.

Our 70,000 square-foot headquarters is a modern manufacturing facility. All aspects of electrical, mechanical, and software design and production are performed in this facility and controlled by an ISO9001 certified quality program. Our engineers offer a unique blend of theoretical knowledge and practical experience. Our Service and Calibration Department assists customers during and after installation to ensure years of trouble free service.

We carry our commitment into the future as we proudly continue to provide the best in high voltage, high current, high power test systems and components.

High Voltage • High Current • High Power Test Systems and Components

**ISO 9001
CERTIFIED**



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