PHENIX Technologies offers a complete line of motor test systems for AC, DC, synchronous and traction motors designed to test a wide range of horsepower 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

Specifications are subject to change without notice.
## TAP START MODEL 50 kVA

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MTS50NVD</th>
</tr>
</thead>
</table>

### 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**
    - 1: 30 VAC 400 AAC
    - 2: 100 VAC 200 AAC
    - 3: 115 VAC 200 AAC
    - 4: 230 VAC 100 AAC
    - 5: 277 VAC 100 AAC
  - **High Range**
    - 1: 60 VAC 400 AAC
    - 2: 208 VAC 200 AAC
    - 3: 230 VAC 190 AAC
    - 4: 460 VAC 95 AAC
    - 5: 575 VAC 75 AAC
- **DUTY CYCLE**: 1 hour ON / 1 hour OFF at 50 kVA

### DC OUTPUT
- **TAP**
  - **Low Range**
    - 1: 40 VDC 100 ADC
    - 2: 140 VDC 100 ADC
    - 3: 155 VDC 100 ADC
    - 4: 310 VDC 100 ADC
    - 5: 375 VDC 100 ADC
  - **High Range**
    - 1: 80 VDC 100 ADC
    - 2: 280 VDC 100 ADC
    - 3: 310 VDC 100 ADC
    - 4: 620 VDC 100 ADC
    - 5: 750 VDC 100 ADC

### ARMATURE SUPPLY
- **TAP**
  - **Low Range**
    - 1: 40 VDC 100 ADC
    - 2: 140 VDC 100 ADC
    - 3: 155 VDC 100 ADC
    - 4: 310 VDC 100 ADC
    - 5: 375 VDC 100 ADC
  - **High Range**
    - 1: 80 VDC 100 ADC
    - 2: 280 VDC 100 ADC
    - 3: 310 VDC 100 ADC
    - 4: 620 VDC 100 ADC
    - 5: 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)

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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

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[www.phenixtech.com](http://www.phenixtech.com)
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.

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**SAFETY and DESIG FEATURES**

**TECHNOLOGIES**

**PHENIX**

**+1.301.746.8118**

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**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.
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**VARIABLE VOLTAGE MODELS 100-200 kVA**

**MODEL** | **MTS100R-75** | **MTS200R-150**
--- | --- | ---
**APPROXIMATE MAXIMUM TEST CAPABILITY**

| AC MOTORS | Load | 100 HP | 200 HP |
| DC MOTORS | Load | 90 HP | 180 HP |
| No-Load | 500 HP | 1000 HP |
| No-Load | 360 HP | 720 HP |

**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

Frequency: 50 or 60 Hz (one must be specified)

**AC OUTPUT**

<table>
<thead>
<tr>
<th>TAP</th>
<th>Voltage / Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≈0-120 VAC, 400 A</td>
</tr>
<tr>
<td>2</td>
<td>≈0-240 VAC, 240 A</td>
</tr>
<tr>
<td>3</td>
<td>≈0-480 VAC, 120 A</td>
</tr>
<tr>
<td>4</td>
<td>≈0-600 VAC, 96 A</td>
</tr>
</tbody>
</table>

**DC OUTPUT**

<table>
<thead>
<tr>
<th>TAP</th>
<th>Voltage / Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≈0-125 VDC, 300 A</td>
</tr>
<tr>
<td>2</td>
<td>≈0-250 VDC, 300 A</td>
</tr>
<tr>
<td>3</td>
<td>≈0-550 VDC, 125 A</td>
</tr>
<tr>
<td>FIELD SUPPLY</td>
<td>≈0-300 VDC, 10 A</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>MTS100R-75</th>
<th>MTS200R-150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>68” (1730 mm)</td>
<td>68” (1730 mm)</td>
</tr>
<tr>
<td>Width</td>
<td>52” (1321 mm)</td>
<td>52” (1321 mm)</td>
</tr>
<tr>
<td>Height</td>
<td>74” (1880 mm)</td>
<td>74” (1880 mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>3200 lbs (1452 kgs)</td>
<td>4200 lbs (1905 kgs)</td>
</tr>
</tbody>
</table>

**WINMITS Software Meters Screen Display and Sample Test Report**
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.

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