



D30R: 30KV High Voltage Surge/High Potential/ Resistance Tester



The D30R brings you the latest innovations in the testing of electrical insulation systems. This tester features the proven accuracy and reliability of over 40 years of experience. Specifically designed for shop performance, this digital instrument provides a cost effective solution to large motor testing. The D30R represents Baker Instrument Company's on-going commitment to quality in the design of high performance test equipment.



The D30R is a stand alone unit specifically designed to diagnose faults in very large electrical motors and windings, improving quality in the shop and reducing unnecessary and costly downtime in the field. The 30KV output allows you to thoroughly test larger windings with lower impedance and higher capacitance. The D30R satisfies the requirements of testing the windings of both AC motors and DC armatures by producing a Surge with higher voltage and instantaneous current.

The D30R offers you all of the convenient features of digital technology. It performs Resistance, DC High Potential and Surge tests along with incorporating a supply monitor to insure safe operation from a well grounded source. The control and display module provides the user with comprehensive testing results.

The Resistance Test verifies the existence of dead shorts within the turn-to-turn coils, shows any imbalances between phases due to turn count differences, along with locating poor wire connections or contacts. The DC high potential (HiPot) test is also done with the D30R. Test voltage is set by the output control from 500 volts up to 30,000 volts. Current is displayed and an overcurrent trip circuit monitors the test. If current exceeds the trip level, the test is automatically halted. In its most sensitive setting, the protective circuit will operate as low as 10 microamps.

The "Key Element" of the Surge test circuit is a grounded grid hydrogen thyratron tube. The tube conducts very high peak current (rated up to 20,000 amps). Such high instantaneous currents are needed to fully test the very low impedance windings of large motors or form wound coils. This current is only produced for a few microseconds by the discharge of a 0.1 microfarad capacitor.

Voltage rise time is 100-200 nanoseconds (0.1 - 0.2

SPECIFICATIONS*

SURGE TEST

Maximum Output Voltage	30,000 Volts
Maximum Output Current	1,800-2,000 amps peak
Maximum Pulse Energy	45 joules
Discharge Capacitance	.1 micro-farad

DC HIGH POTENTIAL TEST

Maximum Output Voltage	30,000 Volts
Maximum Output Current	1000 microamps
Overcurrent Trip	10/100/1000 microamps
Current Resolution	1/10/100 microamps

RESISTANCE TEST

.0008 ohms - 216 ohms

PHYSICAL CHARACTERISTICS

Weight (pounds)	290 pounds
Dimensions	24 x 55 x 26 inches
Power Requirements	110V/220V Single Phase 1000 Watts, 50/60 Hz

Three Phase Selector Switch Standard on this unit.

microseconds), so the D30R complies with IEEE Standard 522-1992 and IEC Standard 34-15 when testing motor windings and coils.

The D30R is housed in a new mobile case with the control unit permanently affixed to the upper face. 60Kv high voltage test leads are provided along with dedicated Kelvin Resistance test leads for convenient portable testing. These features along with the unsurpassed testing capabilities make the D30R a powerful and technically advanced tester for in house shop or field environments.



* Data subject to change without notice. Printed in USA 10/03



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