



# Portable DC Hipots

40-160 kV

- Lightweight and ruggedly constructed for years of field use
- Units feature easy to read meters and user-friendly controls
- Internal discharge device
- Shielded high voltage output cable
- Guard measurement circuit



Model 4100-10



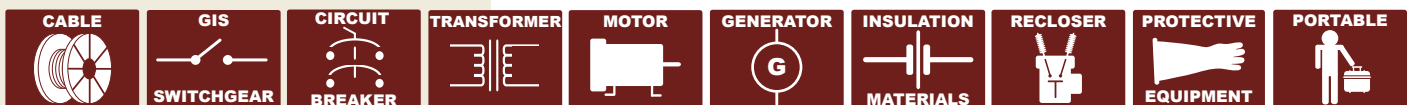
Model 475-20



Model 4160-5

## TESTING APPLICATIONS

Perform accurate DC hipot testing of electrical switchgear, cables, motors, generators, and protective equipment



Specifications are subject to change without notice.

Brochure No. 40106

## Portable DC Hipots 40-160 kV

Phenix Technologies offers a line of portable 40-160 kV DC Hipots with many advanced features including high accuracy, digital meters, analog charging currentmeter, adjustable overcurrent, and high output current ratings.

The high voltage is generated by a filtered high voltage doubler circuit, that is built by Phenix for this application.

A solenoid operated discharge switch quickly discharges the load after testing. All high voltage components are housed in an oil filled aluminum sealed grounded dead tank. A shielded high voltage lead allows the operator to safely connect the high voltage output to the test object. The high mA charging current, which is standard with all Phenix DC Hipots allows the operator to quickly and efficiently charge large capacitive loads.

The precision metering measured off the high voltage output indicates the output voltage and leakage current on large easy to read digital meters. An analog meter is provided for reading leakage current.

Additional safety features include an instantaneous and thermal overload protection for the operator and the test object.

The proven and rugged design coupled with precision metering and ease of use have made DC hipots the optimal choice for high voltage DC testing.



## SAFETY and DESIGN FEATURES

- Circuit breaker protection
- External interlock provision
- High voltage On/Off pushbuttons with indicators
- Zero Start interlock
- Manual control of output voltage
- Adjustable overload circuit with indicator and reset switch
- Slow and fast-acting transient protection on all meters and relays
- Built-in discharge circuit
- Digital multi-range metering
- Meters calibrated with standards certified by NIST. A traceable sticker is affixed to the faceplate.
- Thermal resettable overload protecting high voltage transformer primary circuits.
- Guard mode for accurate current measurements
- Very low ripple, <2% RMS at full output
- Filtered voltage doubler circuit, equivalent to full wave rectification
- All control and power cables are included
- Cable storage provision
- Calibration certificate
- Two copies of operation/maintenance manual

## ENVIRONMENTAL CONDITIONS

- 10-40°C, indoor/outdoor in fair weather
- Humidity <95% non-condensing
- Altitude <3000 ft (1000 meters)

## OPTIONS

- Model GS100-2 (100 kV) or GS160-2 (160 kV) Ground Stick, 2-piece design, with a 25' (8 m) ground lead
- Model DS100-2 Discharge Stick (100 kV, 100 kΩ, 50 kJ), 2-piece design with a 25' (8m) ground lead
- Safety Foot Switch with 20' (6 m) lead
- Positive polarity output
- Custom cable lengths
- Hand cart (option for models 4120-10 and 4160-5)
- Calibration Certificate with data



	MODEL	440-20	475-20	4100-10	4120-10	4160-5	
INPUT	Voltage / Current	110-120 V, 5 A 220-240 V, 3A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	110-120 V, 10 A 220-240 V, 5 A	
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
DC OUTPUT	Voltage / Current	0-40 kV, 20 mA	0-75 kV, 20 mA	0-100 kV, 10 mA	0-120 kV, 10 mA	0-160 kV, 5 mA	
	Ripple	<2%	<2%	<2%	<2%	<2%	
	Polarity	negative output, positive ground					
DUTY CYCLE	Continuous Capacitive Charging	20 mA	20 mA	10 mA	10 mA	5 mA	
INTERNAL DISCHARGE DEVICE	Internal Discharge Device	3 kJ	6 kJ	6 kJ	12 kJ	12 kJ	
DIGITAL METERING	Type / Accuracy	3 1/2 digit, 0.5% of Full Scale					
	Voltmeter Range(s)	0-19.99/40 kV	0-19.99/75 kV	0-19.99/100 kV	0-19.99/120 kV	0-19.99/160 kV	
	Currentmeter Range(s)	0-19.99 $\mu$ A/ 199.9 $\mu$ A/ 1.999 mA/ 19.99 mA					
	Output Charging Indicator	1.5" Analog 0-100% of selected range indication					
DIMENSIONS & WEIGHTS	Controls	L	18.5" (470 mm)	18.5" (470 mm)	22.5" (572 mm)	21" (533 mm)	21" (533 mm)
		W	10.5" (267 mm)	10.5" (267 mm)	21" (533 mm)	17" (432 mm)	17" (432 mm)
		H	21.5" (546 mm)	21.5" (546 mm)	16.5" (420 mm)	14" (355 mm)	14" (355 mm)
		Wt	50 lbs (23 kgs)	59 lbs (27 kgs)	98 lbs (44 kgs)	33 lbs (15 kgs)	33 lbs (15 kgs)
	HV Tank	L	one-piece design	one-piece design	one-piece design	17.5" (440 mm)	18" (460 mm)
		W				12" (305 mm)	12.75" (325 mm)
		H				22" (560 mm)	28" (710 mm)
		Wt				111 lbs (50 kgs)	150 lbs (68 kgs)
	Shipping Size	L	22" (558 mm)	22" (558 mm)	27" (686 mm)	48" (1219 mm)	42" (1067 mm)
		W	14" (356 mm)	14" (356 mm)	26" (660 mm)	30" (762 mm)	27" (686 mm)
		H	24" (610 mm)	24" (610 mm)	21" (533 mm)	31" (787 mm)	37" (940 mm)
		Wt	56 lbs (25 kgs)	69 lbs (31 kgs)	115 lbs (52 kgs)	195 lbs (88 kgs)	285 lbs (129 kgs)
CABLES INCLUDED	Input Power	7' (2 m)	7' (2 m)	7' (2 m)	7' (2 m)	7' (2 m)	
	High Voltage	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	
	Ground	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	
	Return	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	20' (6 m)	
	Power Interconnect	n/a	n/a	n/a	25' (8 m)	25' (8 m)	

### GS100-2 Ground Stick



### DS100-2 Discharge Stick



### Safety Foot Switch





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 insure 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**



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

#### **World Headquarters**

**Phenix Technologies, Inc.**  
75 Speicher Drive  
Accident, MD 21520 USA  
**Ph: +1.301.746.8118**  
**Fx: +1.301.895.5570**  
**Info@phenixtech.com**

#### **Branch Offices**

**Phenix Systems AG**  
Riehenstrasse 64, 4058 Basel, Switzerland  
**Ph: +41.61.383.2770 • Fx: +41.61.383.2771**  
**Info@phenixsystems.com**

**Phenix Asia**  
Zhong Cheng Rd, Sec 1, No 177, 2F, Taipei 11148 Taiwan  
**Ph: +886.2.2835.9738 • Fx: +886.2.2835.9879**  
**Info@phenixasia.com**

