



PARKER MEDICAL, INC.

High Voltage X-Ray Imaging Components

Devices for Calibrating and Troubleshooting High Voltage Equipment

- Medical
- Industrial
- Product Design
- CNC Machining
- Plastics Molding
- Cables & Harnesses
- Connectors
- X-Ray Tube Cooling
- X-Ray Beam Control
- Measurement Devices
- X-Ray Source Design

H917 Dual-Pole Voltage Divider

The PMI H917 is a frequency compensated, 100-meg ohm, voltage divider designed to accurately test x-ray equipment. It has an impedance match and low frequency electrical characteristics similar to the GE C1515A and 46-15496681 voltage dividers. It can be used with single phase and three phase generators, and also provides excellent high frequency compensation for use with high frequency generators. With a well characterized rise time, the H917 divider is suitable for use in radiography, cine, pulse and mammography applications. It can be utilized for both high frequency and short exposures.

Unique to the H917 is its ability to be used in place of the GE C1515A voltage divider in closed loop calibrations of the AMX IV mobile unit and 9800 CT scanner. The PMI H917 divider can be used up to 100,000 Hz allowing more accurate timer and shutter calibrations and facilitating diagnosis of most power supply faults.

The divider provides two ranges, allowing it to be used with a variety of readout devices. One mode of operation provides the 1000:1 ratio into a 10-meg ohm load (in this mode it may be used as a replacement for the GE divider). It may also be connected to 10-meg ohm input impedance DC digital volt meters or 10-meg 10X scope probes. The second mode of operation is the 10,000:1 range when operated into a 1-meg ohm load such as the direct input of an oscilloscope.

The H917 is housed in an oil-filled steel container. It is light-weight and designed for rigorous transport and reliable field service.



H917 dual-pole divider with BNC and jumper cables.

H917 Specifications

VOLTAGE DIVISION RATIO	
SCOPE MODE	10,000:1 ±1%, 1-MEG LOAD
DIRECT MODE (GE EMULATION)	1,000:1 ± 1%, 10-MEG LOAD
DIVIDER RESISTANCE	100-MEG OHM, CAPACITIVELY COMPENSATED
KV FREQUENCY RESPONSE ACCURACY	1% AT DC 3% AT 1KHz 5% AT 100KHz
OIL FILLED	CONTINUOUS OPERATION
VOLTAGE RANGE	0-150KVP, ± 87.5KVP PER SIDE MAXIMUM IN 3-PHASE APPLICATIONS
WEIGHT	32 LBS. (15.5 KG)
DIMENSIONS	12" DIAMETER X 10" HIGH
HV CONNECTORS	FEDERAL STANDARD 3-PIN WITH OPTIONAL 4-PIN GRID FEDERAL CONNECTOR FOR CATHODE, OTHER CONNECTORS AVAILABLE
SUPPLIED WITH	(2) BNC CABLES, 15-FEET OIL-TIGHT SELECTOR SWITCH
STORAGE	AVOID FREEZING TEMPERATURES MAX ACCURACY IS AT 70°F
MANUFACTURED	USA
ACCESSORIES	H496 HV CALIBRATION CABLES 5' (FEDERAL) H493-005 P3 HV CALIBRATION CABLES 5' (MAMMOGRAPHY) H45 FEDERAL/MAMMOGRAPHY ADAPTER PLUG 44 LORAD MAMMOGRAPHY EQUIPMENT CALIBRATION CABLE
CALIBRATION	TRACEABLE TO NIST RECOMMENDED ANNUALLY

H1049 Mono-Pole Voltage Divider

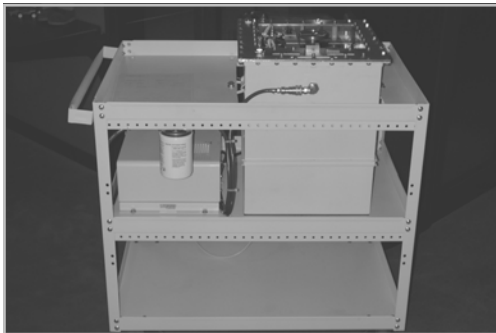


The PMI H1049 150KV HV divider is a 200-meg ohm, high frequency compensated high voltage calibration unit designed to test x-ray equipment and other high voltage instruments. Its precision provides accurate measurement for laboratory, manufacturing, systems integration, and installation and service applications. The unit is small and lightweight. With a well-characterized rise time, the H1049 divider may be used with single phase, three phase and constant potential high voltage generators and for both pulsed and high frequency exposures.

H1049 Specifications

OPERATING VOLTAGE	190KVDC, SHORT TERM (MAX) 150KVDC CONTINUOUS
DIVIDER RATIO	10,000:1 / 1,000:1 SWITCHABLE
INPUT RESISTANCE	200-MEG OHM
RESPONSE ACCURACY	1% AT 1KHz DC 5% AT 1KHz—20KHz 10% AT 20KHz—100KHz
WEIGHT	30 LBS
DIMENSIONS	12" DIAMETER x 12" HIGH
HV CONNECTORS	
H1049 P1	EXTENDED FED STD 160KV 3-PIN H454 P3-160 RECEPTACLES
H1049 P2	H1419 P2 R24 RECEPTACLES (OTHER CONNECTORS AVAILABLE ON REQUEST)
OUTPUT CONNECTOR	BNC
SUPPLIED WITH	(1) BNC CABLE 15-FEET, GROUND STUD, CARRYING HANDLE
STORAGE	AVOID FREEZING TEMPERATURES, MAX ACCURACY IS AT 70°F
MANUFACTURED	USA
ACCESSORIES	
H1049 P1	PMI H453-005 P3-160 JUMPER CABLES 5'
H1049 P2	PMI H1376-005 R24 JUMPER CABLES 5'
CALIBRATION	TRACEABLE TO NIST, RECOMMENDED ANNUALLY

H986 HV Load Simulator

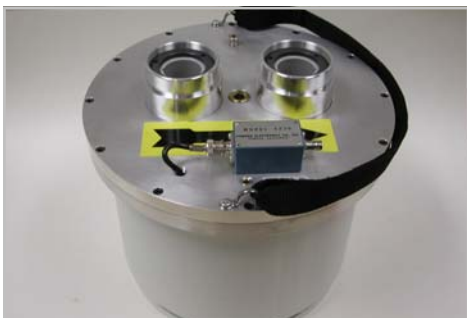


The PMI H986 load simulator is a device which tests power supply output in normal operating mode and with a simulated load. The switchable load is rated at 100KV and is provided with a circulating oil heat exchanger that provides cooling for continuous duty. High voltage connections can be customized by selecting from PMI's wide range of HV receptacles and cables. Other instruments that can be used in conjunction with the load simulator include the PMI H1049 mono-pole 160KV divider, the H917 75KV divider for dual-pole x-ray systems and the H1374 transient current monitor.

H986 Specifications

WEIGHT	200 LBS (NOT INCLUDING CART)
SIZE	17-1/4" x 16-3/4" x 20-1/2"H
TEMPERATURE OPERATING RANGE	20°C—65°C
MAXIMUM WORKING VOLTAGE	110KV
OIL CAPACITY	APPROX. 16.6 U.S. GAL
HIGH VOLTAGE CONNECTIONS	
	The H986 load has been outfitted with federal standards receptacles and an H1018 receptacle for connecting a high voltage divider. Other connector types may be specified.
INTERLOCKS	
	An interlock feedback indicates plugs are fitted in all HV receptacles. This is provided on a 9-pin D connector.
CONTROLS	
	One control is provided to switch power between internal load and straight feed-through operation.
INTERNAL INSTRUMENTATION	
	Internal meters measure the applied voltages and currents. Filament voltage, filament current, grid voltage and anode current may all be measured. Other signal measurements can be provided for custom applications. Self-contained moving coil meters are used as standard.
INTERNAL PROTECTION	
	Thermal protection is provided on all load circuits that will prevent dangerous over-temperature conditions. A thermometer reads out load temperature at all times.

H1374 Transient Current Monitor



H1374 Specifications

	The H1374 device transient current monitor is placed in the high voltage circuit to measure HV noise and arcs with high temporal resolution.
	See H1374 data sheet and instruction manual for further details.
WEIGHT	32 LBS. (15.5 KG)
DIMENSIONS	12" DIAMETER X 10" HIGH
HV CONNECTORS	SELECT FROM PMI FEDERAL STANDARD OR EXTENDED FEDERAL STANDARD (H453 SERIES), MOLDED TAPER AND CONICAL STYLES (R24).