



# VERY LOW FREQUENCY AC HIPOT VLF Cable Testing for Transmission Cables

## VLF-200CMF

### Features and Benefits

The High Voltage, Inc. **VLF-200CMF** was designed for withstand and diagnostic testing of cable systems up to 150kV. Smaller and more affordable than a power frequency AC resonant test set, the VLF-200CMF is capable of testing approximately 60,000 feet (18km) of cable and can be used with optional Tan Delta or Partial Discharge equipment. HVI introduced Sinewave output VLF technology in 1997 and the VLF-200CMF has been manufactured since 2004. The multi-piece design allows many transportation configurations, cargo trailer, flatbed, custom designs. HVI also offers the VLF-200CMF for rent installed in our custom roll top pod. Contact HVI for more information.



VLF-200CMF

### Specifications

<b>Input</b>	230V, 80A peak, 50/60Hz (Single phase)
<b>Output</b>	Sinusoidal 0-200kVac peak, 100mA Bushing Output
<b>Load capacitance</b>	.75 $\mu$ F @ 0.1 Hz, up to 3.75 microfarad @ 0.02 Hz
<b>Duty</b>	Continuous
<b>Metering and control</b>	Voltmeter: 0-200kVac peak, Analog (3.5 in. display) Current meter: 0-200 mA ac, Analog (3.5 in. display) Capacitance meter: 0-6microfarads On/Off Controls with zero start interlock Fixed Primary overload, 120% of primary rating Three Fixed Operating Frequencies: 0.1/.05/.02 Hz Burn/Hipot Operation Mode Switch Digital Dwell Timer Automatic return to zero External interlock
<b>Sizes</b>	Control: 24"w x 30"d x 62"h (610mm x 762mm x 1575mm) HV Tank: 60"w x 37"d x 87"h (1514mm x958mm x 2210mm)
<b>Weights</b>	Control: Approx. 750 lbs. (341 kg) HV Tank: Approx. 3300 lbs. (1497kg)



Optional remote control

### IEEE Std. 400.2-2023

WAVEFORM	Cable system rating (phase to phase) [kV]	Installation (phase to ground)		Acceptance (phase to ground)		Maintenance <sup>2</sup> (phase to ground) (see Note 2)	
		[kV RMS]	[kV PEAK]	[kV RMS]	[kV PEAK]	[kV RMS]	[kV PEAK]
Sinusoidal	5	9	13	10	14	7	10
	8	11	16	13	18	10	14
	15	19	27	21	30	16	22
	20	24 (Note 3)	34 (Note 3)	26	37	20	28
	25	29 (Note 3)	41 (Note 3)	32	45	24 (Note 3)	34 (Note 3)
	28	32	45	36 (Note 3)	51 (Note 3)	27	38
	30	34	48	38	54	29 (Note 3)	41
	35	39	55	44	62	33	47
	46	51	72	57	81	43	61
	69	75	106	84	119	63	89
	115	125 (Note 4)	176 (Note 4)	140 (Note 4)	198 (Note 4)	105 (Note 4)	148 (Note 4)
	138	150 (Note 4)	212 (Note 4)	168 (Note 4)	238 (Note 4)	126 (Note 4)	178 (Note 4)

**NOTE 1** - If the operating voltage is a voltage class lower than the rated voltage of the cable, it is recommended that the maintenance test voltages should be those corresponding to the operating voltage class.

**NOTE 2** - The maintenance voltage is about 75% of the acceptance test voltage magnitude.

**NOTE 3** - Some existing test sets have a maximum voltage that is up to 5% below the values listed in the table. These test sets are acceptable to be used. However, there is a risk that the cable may be "undertested" due to a combination of lower test voltage and allowed uncertainty of the measuring circuit.

**NOTE 4** - Voltage Levels are based upon current practice where the relative test voltages decrease as the cable rating increases to compensate for the changes in design stress for HV vs MV cables. Considering typical cable designs the stresses at test voltages for HV cables are more than twice those for MV cables. Lower voltage levels may be used upon agreement with the circuit owner.

