

Mini VLF AC Hipot For URD Cable Testing

*Designed for Quick & Easy
Short-Run Cable Testing*

You just installed or repaired a cable: Now what?

How do you know the work and materials are good?

▶ **There is only one sure way to know: VLF IT!**

The best way to expose defects in a cable is to AC hipot it using VLF technology. After any cable is installed or repaired, it should be VLF hipotted to insure the integrity of the insulation, splices, joints, etc. A hipot test, a megger, or a 24 hour soak test tell little about the quality of the installation or repair. The cable's already down: VLF it before reenergizing. If the cable can't hold 2 – 3 times normal voltage for the IEEE prescribed 15 to 30 minutes, find out now while you're there to make the repairs. With the majority of failures due to deficiencies or installation damage, a VLF test is a must to guarantee the cable's integrity. It's quick, easy, and sure.

Because of the damage DC voltage causes to solid dielectric insulation and due to its limited ability to expose many types of defects, most have quit DC testing or reduced the test voltages to levels that provide little information about the cable condition. A cable is designed for and carries AC voltage: it should be tested with AC voltage. Our affordable VLF-28CM enables quick and easy field testing of AC power cables.



VLF-28CM

**Small • Portable • Economical
Model VLF-28CM**

0–28 kVac @ 0.1Hz output
15" w x 11.5" d x 22" h, 69 lbs.

With Accessories: 73 lbs.

Can test up to 0.4 μ F load
or approximately 4000 feet of
15kV class cable.

▶ **High Voltage, Inc. produces the smallest, lightest, most economical VLF AC Hipots available. Now, for the first time ever, a VLF hipot is available that approaches the size and weight of DC hipots.**

The VLF-28CM is designed for short run, 15 kV and below, cable testing. Other models offer higher power and voltages for other cable and apparatus testing applications. These models range in voltage from 40 kV to 200 kV and in load ratings from 5.5 μ F to 50 μ F.

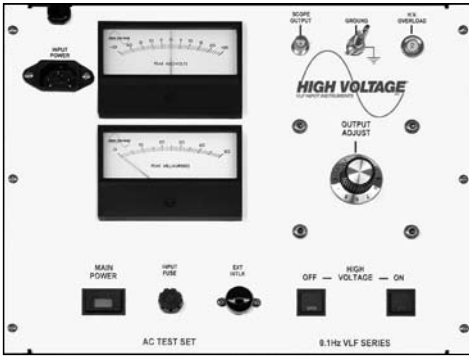
Other applications include: rotating machinery per IEEE 433, capacitors, bushings and insulators, transformers, and other high capacitance loads.



HIGH VOLTAGE, INC.

31 County Rt. 7A • Copake, NY 12516 • (518) 329-3275 • Fax: (518) 329-3271
E-Mail: sales@hvinc.com • Web: www.hvinc.com

High Voltage, Inc. designs and manufactures high voltage test equipment for utility and industrial applications. Products include VLF AC hipots, fault locators/thumpers, AC and DC hipots, aerial lift testers, HV dividers, oil dielectric testers, and more.



VLF-28CM Control Panel

What is VLF? VLF stands for Very Low Frequency and is generally considered to be 0.1 Hz and lower. The HVI VLF AC hipots output a true sinusoidal AC voltage at 0.1 Hz and lower, rather than at 50 or 60 Hz. It is still AC voltage only at a lower frequency.

A VLF hipot is simple to operate and VLF testing is easy to perform. AC hipots have been used for decades to test various types of equipment. Now they can be used for field testing cable, rotating machinery, and other loads. The load is connected to the HV output and the grounded return of the VLF unit. The test voltage is applied for the required duration. The load either holds the voltage and passes or fails. It's a go/no-go test.

Why VLF?

A long cable has a high capacitance. To test a cable at line frequency, it takes a high power, large, heavy, and expensive power supply that is not practical for field use. At 0.1 Hz, it takes 600 times less power to test a cable than at 60 Hz and 500 times less power than at 50 Hz. Our VLF products are sine wave output, AC hipots, at a lower frequency. Our other models are variable from 0.1 Hz - 0.01 Hz. With the introduction of our VLF hipots, utilities and others can finally field test cable with AC voltage using a small, lightweight, economical unit.

Some Benefits of HVI VLF AC Hipots

- Smallest, lightest and most economical of all available
- Highest load ratings available
- Highest voltage models available
- Simple, easy operation
- AC testing does not degrade cable insulation
- Harmful space charges are not injected into the cable insulation
- Sine wave output all models
- No traveling waves are generated during testing
- BNC scope output
- Waveshape independent of capacitive loading between 0.01 μ F and maximum load

Specifications VLF-28CM	
Input	120 volts, 60 Hz, 5 A peak, 2.5 A average or 230 volts, 50/60 Hz, 2.5A peak, 1.5A average (F suffix)
Output	0–28 kVac peak, 0.1 Hz, sinusoidal
Duty	Continuous
Load Rating	0.4 μ F or approximately 4,000 feet of cable
Metering	Center Zero Voltmeter: -30–0–+30 kVac peak Charging Current meter: 0–50 mA peak
HV Cable Output	20' RG 8/U with alligator clamp
Size & Weight	15" w x 11.5" d x 22" h, 69 lbs. (with accessories 73 lbs.) 381 mm w x 292 mm d x 559 mm h, 33 kg

What kind of cable can be tested and how long a length?

VLF can be used to test all types of cable. The cable length depends on the overall capacitance of the cable and the VLF set. HVI offers VLF units that can test up to 90 miles of cable at once and models up to 200kVac. The VLF-28CM with its 28 kVac peak output, is designed to test cables rated up to 15 kVac. With the IEEE standard calling for a 22 kV peak voltage test on a 15 kV cable (3 times the line-to-ground voltage) for at least 15 minutes, the VLF-28CM is the best choice. Its 0.4 μ F rating enables it to test approximately 4000 ft. of typical 15 kV cable. For longer runs, our higher power units must be used.

Used in conjunction with VLF supplies, a tan delta bridge can measure changes in the insulation quality of power cables. These measurements are used to track the degradation of the insulation over time.

Need more information on VLF?

For more information on our VLF products and VLF testing, visit our website and download our VLF FAQ paper, numerous technical articles, and other VLF brochures at www.hvinc.com



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Specifications, sizes, weights and features may vary slightly in the interest of continuous product improvement.