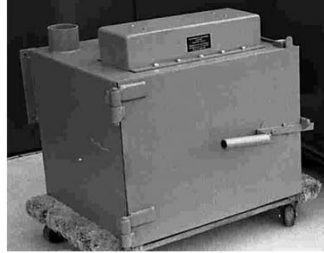
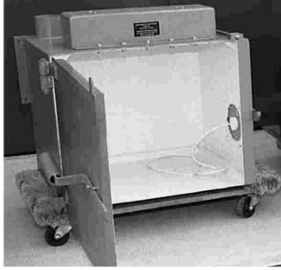


Test Chamber for Electro-Explosive Devices

(Catalog No. 6028)



This is heavy steel. For operator safety, there is a door-switch controller (interlock). The firing line comes in on the right-hand side. There is an overhead fluorescent light. A camera port is on the left-hand side. A flue at rear left permits forced air evacuation.

The test chamber weighs about 210 pounds (95 kg). It is about 24 inches (61 cm) on a side. We routinely use this in our laboratory to explode up to 2 grams of high explosive.

Test Chamber Alone	\$8,830.56
Chamber with Matching Table	\$9,106.42

RF Tester for RF-Resistant Electro-Explosive Devices

(Catalog No. 6059)



This is a hand-held tester for field use. It clips onto the leads of an EED. It will indicate whether the EED contains a capacitor across the bridgewire, as protection against radio-frequency (RF) energy. If the EED contains a capacitor, a green light turns on. If the EED contains no capacitor, a red light turns on. The picture above shows this tester with a Mark 17 Mod 1 electric detonator..

Price (US Dollars) \$24,106

Constant-Power Tester For Electro-Explosive Devices

(Catalog No. 6130)

This is for bench testing sensitivity of nonlinear EEDs. It is very useful in determination of no-fire power levels of semiconductor-bridge (SCB) initiators.

As a nonlinear EED (SCB) changes temperature, the ratio of voltage to current (effective resistance) changes. Thus, one cannot use a voltage-regulated power supply, nor a current-regulated power supply, to test an SCB. Hence the need for this power-regulated tester.

Price (US dollars) \$6,430.64

QA Tester for Electro-Explosive Devices

(Catalog No. 6197)



This tester performs a number of quality-assurance tests on EEDs:

It measures resistance of the EED bridge element. The operator can use a two-wire connection, or a more accurate four-wire connection.

The operator can set the desired value of no-fire current. The tester applies the no-fire current level automatically, for the required time duration.

The operator can set the desired value of all-fire current. The tester applies the all-fire current level, for the required time duration.

The tester provides a square-wave logic pulse output, to facilitate measurement of firing time.

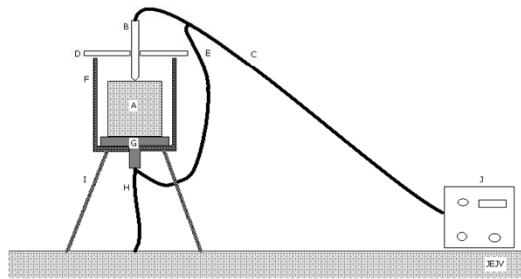
The case sits on a test bench. Rack mounting is an option.

For operator safety, there is an arming plug.

The weight is about 25 pounds.

Price (US Dollars) \$35,569

Large-Scale ESD Tester (Catalog No. 6330)



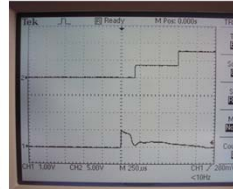
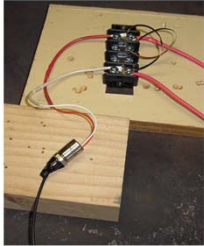
This tester is for larger amounts of energetic materials, as described in MIL-STD-1751A Method 1034. A document from the North Atlantic Treaty Organization (NATO) gives a more complete description of the large-scale tester. It is Standardization Agreement (STANAG) No. 4490 (Edition 1). The date is 19 February 2001. The subject is "Explosives, Electrostatic Discharge Sensitivity Test(s)."

This is for non-conductive high explosives, rocket motor and gun propellants. It is not applicable to primary explosives and pyrotechnics

Price (US Dollars)

\$56,073

Light Sensor (Catalog No. 6559)

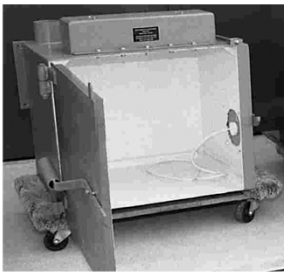


We use this for timing the output of electro explosive devices (EEDs). We attach a fiber optic cable to each EED, as we show in the photo above, at left. The sensor module has two fiber-optic inputs, as we show in the middle picture. The sensor output shows the times when the two EEDs fire, as we show in the upper oscilloscope trace, at right. The lower oscilloscope trace records firing current from a capacitor discharge.

Price (US Dollars)

\$3,183

ESD Tester for Electro-Explosive Devices With Test Chamber (Catalog No. 6599)



This tester will charge a capacitor to a high voltage. Upon command, the electrical energy will discharge, in the form of a spark, to an electroexplosive device – EED, igniter, or detonator. There is provision for a series resistor, which affects the discharge characteristics.

The electrostatic discharge is more powerful than the worst-case spark from a human being. Thus, if an EED withstands this test, the EED is safe to handle, from the standpoint of electrostatic sensitivity.

With the capacitor and series resistor furnished, this tester can perform the ESD test described in MIL-DTL-23659D; MIL-STD-331B, Notice 3, Test F1.1; MIL-STD-1512, Method 205; and MIL-STD-1576, Method 2205.

Price (US Dollars)

\$53,017

Fireset for Electro-Explosive Devices

(Catalog No. 6625)



This fireset will produce a firing pulse that is adjustable from 2 to 10 milliseconds. The constant current is adjustable over a range 2 to 6 amperes. The maximum voltage output is at least 20.

The fireset operates on 110 VAC. As an option, it can operate from a battery.

The case is rack mountable. As an option, it is in a bench-top case.

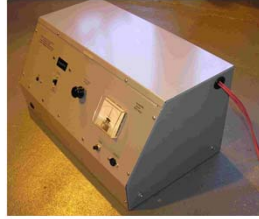
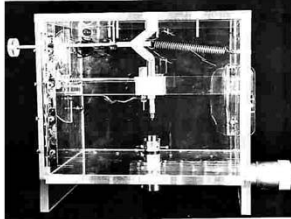
There is a key switch, and an interlock for safety. There is a FIRE button on the front panel. It can also fire by TTL negative-going pulse, or switch closure, to BNC jack on front panel. An output-current monitor pulse is supplied, at a BNC jack on the front panel.

The weight is about 15 pounds.

Price (US Dollars) \$20,681

Small-Scale ESD Tester

(Catalog No. 6787)



This tester is for small amounts of materials, as described in MIL-STD-1751A.. The title is “Safety and Performance Tests for the Qualification of Explosives (High Explosives, Propellants, and Pyrotechnics).” Methods 1032 and 1033 describe this small-scale tester, and the test procedure.

This is for primary explosives, and pyrotechnics.

Price (US Dollars)

\$95,879

ESD Tester for Powders

(Catalog No. 6882)

The purpose of this apparatus is to test sensitivity of certain powders to electrostatic discharge (spark).

Technicians will use this tester on energetic powders, such as pyrotechnic material. For instance, the first use might be to test metallic powders, i.e., zirconium and aluminum.

It is possible for human beings or other things to acquire an electrostatic charge of considerable magnitude just from normal activity. Low humidity conditions usually increase the maximum charge retained. The charge is often discharged in the form of a small spark to ground. Because it is possible that any energetic material may be exposed to such a discharge, the determination of electrostatic sensitivity is important.

Contact us for further details.



Price (US Dollars)

\$26,066

RF, No-Fire, All-Fire Automatic Tester for RF-Resistant Electro-Explosive Devices

(Catalog No. 6945)



This performs quality-assurance tests on EEDs that are resistant to radio-frequency (RF) power.

The tester automatically matches RF impedance, and puts a predetermined level of radio-frequency power into the EED. The user chooses the frequency. Afterwards, the tester applies the no-fire DC current level, which can be set by the user. Finally, the tester applies the all-fire current level.

All data, including EED serial number, time of day, etc. is saved in the tester's memory, for subsequent download and reporting.

This tester is portable, and comes with a portable test chamber for electric detonators. Interlocks and grounding connections protect the user.

Price (US Dollars)

\$104,843