Sanitization & Destruction Solutions for End-of-Life HDDs, SSDs, and Other Media

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Circular Data Solutions Ltd European Distribution Partner

Secure I.T. Engineered Solutions
A Division of Security Engineered Machinery
Sanitization/Degaussing
Degaussing is the process of using powerful magnetic fields to erase magnetic storage media. In order for degaussing to be a viable end-of-life solution, complete and total erasure is necessary. However, not all degaussers can provide this high level of sanitization. The level of erasure a degausser delivers is directly proportional to the magnetic field strength it creates. For the highest degree of erasure choose a degausser with high magnetic field strength - 16,000 gauss or greater.

Recommended for:
Magnetic media including rotational platter based hard drives, all common types of tape media, and floppy disks.

Physical Destruction - Crushing
Hard drive crushers use powerful downward forces on drives to inflict physical damage. The greater the damage to the drive, the more difficult it is to recover any data from it. Some devices merely puncture a drive’s housing, but for maximum effectiveness a hard drive crusher should bend the drive case, pierce the housing and mangle the internal platters. The result should look something like the picture to the left.

Recommended for:
Platter based rotational magnetic hard drives including desktop drives, laptop drives, and server drives. Can also be used to remove hubs from tape media.

Physical Destruction - Shredding
Data storage media shredders operate in similar fashion to paper shredders but with a significantly larger and more rugged cutting head. Slow speed, high torque cutters rip items to unreconstructable shreds. Systems are available for the shredding of either rotational magnetic media or solid state devices. They inflict greater damage than crushers and provide the added benefit of high throughput.

Recommended for:
Platter based rotational magnetic hard drives including desktop drives, laptop drives, server drives, low risk solid state media, optical media, tape media, smartphones, tablets, random access memory (RAM), network cards, cell phones, and more.

Physical Destruction - Disintegration
When the highest level of security is required, disintegration is the recommended method of destruction. This process uses heavy-duty steel knives mounted to a rotor that spins at high speeds past stationary bed knives to continuously cut items until they are small enough to pass through a waste sizing screen. Solid state devices can be destroyed in a single pass down to waste particles as small as 2mm².

Recommended for:
Solid state devices including, SSDs, USB drives, flash media, smartphones, tablets, printed circuit boards and more.

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MMD1000 Electromagnetic Degausser

- Magnetic field: 1.6 tesla / 16,000 gauss
- Cycle time: 15 sec. (actual degauss time 100 ms)
- Built-in magnetic field sensor with verification
- On-board "smart logic" diagnostics
- Universal power input with auto sensing voltage - 120V-240V / 50-60Hz
- Dimensions/weight: 30 x 48 x 58cm (68 Kilos)

NON NSA DEGAUSSERS FOR CUI INFORMATION

MMD1000-HS Electromagnetic Degausser

- Magnetic field: 2.0 tesla / 20,000 gauss
- LCD touchscreen shows field strength, diagnostics and status
- Sanitizes LMR & PMR drives to 5,000 Oe and tape to 3,000 Oe
- Continuous duty cycle
- Cycle time: 25 seconds first cycle, then 20 seconds or less (actual degauss time 100 ms)
- Drawer opens automatically after degaussing
- Built-in magnetic field sensor with visual field verification
- On-board "smart logic" diagnostics
- Universal power input with auto sensing voltage - 120V-240V / 50-60Hz
- Dimensions/weight: 30 x 48 x 58cm (70.3 Kilos)

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An option for rendering data inaccessible on magnetic media is physical destruction. The two primary methods are **crushing and shredding**.

**Hard Drive Crushers**

use powerful force applied to the drive chassis to buckle and/or pierce it. The internal platters, and read/write heads are damaged beyond reasonable recovery methods making the drive inoperable. **Hard Drive Shredders**

operate the same way as paper shredders but with larger more rugged cutting heads. Drives enter the cutting mechanism where they are literally ripped to shreds. The result is a pile of twisted metal that barely resembles a hard drive.

**PER NSA DIRECTIVES PHYSICAL DESTRUCTION IS REQUIRED AFTER DEGAUSSING OF CLASSIFIED DRIVES**

For unclassified magnetic media, a crusher or shredder used on its own is acceptable. Damage to drives is so significant, it’s virtually impossible for any person or entity, except those with the most extensive resources, to recover data. However, for classified magnetic media or for added security, it is necessary to degauss drives with a degaussen listed on the NSA/EPL, then physically destroy them using an NSA Evaluated Crusher or HDD Shredder. This two step approach is mandated by the DoD for classified data.

**Destroy More than Just Hard Drives**

Crushers crush, and shredders shred. They don’t discriminate based on what they are fed. So, they can be used for other media like solid state drives, optical media, MP3 players, touch pads, e-readers, cell phones, PDAs, PC boards and more.

**Crusher or Shredder… Which is Right for You?**

Typically crushers are used in lower volume applications, 100 drives per day or less (a quality hard drive crusher takes about 8 seconds to crush a drive). When volumes are greater a shredder makes more sense. These larger machines can be fed faster and operated continuously for long periods of time. Small hard drive shredders destroy up to 500 drives per hour, larger machines, up to 3,500 drives per hour.

**HARD DRIVE CRUSHERS**

**Model 0101 Crusher - NSA LISTED**

These time tested units use a conical steel punch to deliver 12,000 lbs. of force to pierce, bend, crush and mangle any size, format or type drive up to 4.69cm thick. With a 22.86cm deep destruction cavity, it is the only powered unit that accepts most drives with integrated rails/handles found in server environments. Destroys up to 6 notebook drives in a single cycle.

Unit draws ZERO power when not crushing.

- NSA Evaluated and Listed
- Destruction cycle: 8 seconds
- 115/60Hz, standard 15 amp outlet
- Motor: 1/3 HP, weight: 54 kilos lbs.
- Dimensions: 56 x 25 x 48cm
- Optional deployment case available
With over 20 models of hard drive shredders, no one has more hard drive shredding solutions than SITES. All of our high-torque HDD shredders have saw tooth hooked cutters that literally rip drives to shreds. Most are equipped with standard waste take-away conveyors. Depending on the desired level of security users can choose from machines that produce final waste particles size of 3.8cm x random lengths, 2.5cm x random lengths or 1.9cm x random lengths.

### Some of our more popular HDD Shredders

<table>
<thead>
<tr>
<th>MODEL</th>
<th>PARTICLE SIZE</th>
<th>THROUGHPUT</th>
<th>CAPACITY</th>
<th>MOTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDS-1000</td>
<td>3.8cm</td>
<td>up to 500 per hour</td>
<td>1.0 HP</td>
<td></td>
</tr>
<tr>
<td>HDS-3000</td>
<td>3.8cm</td>
<td>up to 900 per hour</td>
<td>3.0 HP</td>
<td></td>
</tr>
<tr>
<td>HDS-4001</td>
<td>3.8cm</td>
<td>up to 2,000 per hour</td>
<td>5.0 HP</td>
<td></td>
</tr>
<tr>
<td>HDS-4002</td>
<td>3.8cm</td>
<td>up to 2,500 per hour</td>
<td>7.5 HP</td>
<td></td>
</tr>
<tr>
<td>HDS-4005</td>
<td>3.8cm</td>
<td>up to 3,000 per hour</td>
<td>10 HP</td>
<td></td>
</tr>
<tr>
<td>HDS-5004</td>
<td>3.8cm</td>
<td>up to 3,500 per hour</td>
<td>20 HP</td>
<td></td>
</tr>
</tbody>
</table>

### NSA DEGAUSS & DESTROY COMPLIANCE

All SITES hard drive crushers and shredders satisfy the physical destruction requirements of DoD Degauss & Destroy mandate. Simply pair any of these devices with our NSA Listed Degausser Model MMD1000-HS shown here to ensure compliance.

To simplify the compliance process we have created Degauss & Destroy Bundles that make it easy to satisfy your NSA need.

For example our H1 Bundle, an NSA Listed Model HDDC-A Crusher and NSA Listed Model MMD1000-HS Degausser.

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Eliminating the possibility of data recovery from solid state hard drives (SSDs) and other solid state devices can be a significant challenge. Unlike rotational platter based hard drives and other magnetic media, solid state devices CAN NOT be degausssed. As such, physical destruction is required. SSDs store vast amounts of data on small flash memory chips and the only way to ensure that the data is not recoverable is to damage or destroy each and every chip. Therefore only devices specifically designed for SSD destruction should be used. Using devices designed for rotational platter based hard drives could allow some chips to escape damage leaving large amounts of data intact and recoverable.

**METHODS OF DESTRUCTION**

There are three methods of SSD Destruction. **Crushing, shredding & disintegration.**

**SSD Crushers** are ideal for low volume destruction of solid state hard drives, but may be impractical for smaller solid state devices like thumb drives, compact flash, etc.

**SSD Shredders** are recommended for high volume destruction of ANY type of SSD. They produce final waste particles of 1cm (significantly smaller than the 3.8cm, 2.5cm or even 1.9cm² particles generated by HDD shredders) and small enough to ensure that the flash storage chips are destroyed.

**SSD Disintegration** is the option that provides the most complete chip destruction and highest level of security. SSD disintegrators continuously cut SSDs until they are small enough to pass through a waste sizing screen. Particle sizes as small as 2mm can be achieved making data recovery impossible.

**Some Examples of Solid State Media:**
Solid state hard drives, smartphones, cell phones, PDAs, tablets, SIM cards, cameras, floppy disks, ID badges, common access cards, credit cards, USB flash drives, compact flash, optical disks (CDs & DVDs).

**SOLID STATE HARD DRIVE SHREDDERS**

SITES solid state hard drive shredders are available in 4 base model configurations. All produce a final waste particle of 0.9525cm to ensure the destruction of all the flash memory storage chips found in solid state devices.

<table>
<thead>
<tr>
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<th>PARTICLE THROUGHTPUT</th>
<th>CAPACITY</th>
<th>MOTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 0303-375</td>
<td>1cm</td>
<td>up to 250 per hour</td>
<td>3.0 HP</td>
</tr>
<tr>
<td>Model 0302-375</td>
<td>1cm</td>
<td>up to 750 per hour</td>
<td>7.5 HP</td>
</tr>
<tr>
<td>Model 0305-375</td>
<td>1cm</td>
<td>up to 1,000 per hour</td>
<td>10.0 HP</td>
</tr>
<tr>
<td>Model 0304-375</td>
<td>1cm</td>
<td>up to 1,500 per hour</td>
<td>20.0 HP</td>
</tr>
</tbody>
</table>

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These systems are built on SITES’s proven, time tested disintegrator design. High speed rotors equipped with cutting knives spin past stationary bed knives to continuously cut items until they are small enough to pass through a waste sizing screen. Waste particles as small as 2mm are achievable.

SITES SSD disintegrators are customized to meet the volume and space requirements of the customer. They are equipped with a variety of safety, ease-of-use and convenience features as well as operator friendly controls.

In addition to the machines shown here, SITES can configure custom solid state destruction solutions. We can even upgrade an existing disintegrator to an SSD solution.

**Solid State 2mm Destruction Systems**

![Model 2 SSD](image)

MODEL 2 SSD

Approved

to see the Model 2 SSD Solid State Disintegrator in action.

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**HDD/SSD COMBO SHREDDERS - DUAL DESTRUCTION CAPABILITY**

If you have a requirement to destroy both platter based hard drives and other magnetic media as well as solid state devices consider an SITES HDD/SSD COMBO Shredder. You’ll get dual destruction capability in a single device.

The single system solution offers the advantages of reduced space requirements and significant cost savings versus purchasing and maintaining two machines. These unique systems feature dual feed chutes and dual cutting mechanism.

**Eight models of Combo Shredders are available,**

**Key Combo Shredder Specifications**

- SSD waste particle size: 0.95cm SSD throughput: up to 1,500 per hour
- HDD waste particle size: 3.8cm, 2.67cm or 1.9cm HDD throughput: up to 3,500 HDDs per hour

![SSD HDD](image)

Dual designated media feed chute

SITES HDD/SSD COMBO Shredders are the most versatile physical destruction devices available.

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The proposed regulation will apply to European businesses that process personal data, and businesses outside the EU that monitor EU citizens or process personal data obtained from offering goods or services to EU citizens. This effectively means any business that has European customers will need to comply with the new requirements under the proposed regulation. There will be significant fines for companies that do not comply with the proposed regulation of up to 5% of annual worldwide turnover, or €100m, with the possibility for individuals and associations, acting in the public interest, to bring claims for non-compliance.

Ensure the chain of custody of your data is not breached by installing an ‘in-house’ data destruction facility

**Solution**

**Degausser + Combo hard drive and solid state drive shredder**

- Destroy Secure data from end of life
  - Hard Drives
  - Solid State Drives
  - Smart Phones
  - Security badges
  - SD cards and USB sticks
  - Media tapes

Provides 24x7 availability to destroy data and is highly cost effective. Equipment does not require trained personnel to operate and can be easily moved to any location.

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