

# ADVANCED PENETRATION CAPABILITY

## SCF1200

**EXTREME ENERGY.  
ABSOLUTE INSIGHT.**  
GET THE ULTIMATE POWER AND  
SPEED WITH X-RAY VISION FOR  
INTERNAL BALLISTICS AND  
DENSE MATERIAL DYNAMICS.



### SCF1200 advantages

- Heavy penetration capabilities
- Up to 60 mm of steel penetration
- Speeds up to 10 km/s and beyond
- 20 ns X-ray pulses
- Trigger certainty

### Core components

- Computer
- Control tower
- 1.2 MeV pulser with integrated x-ray source
- Stainless steel X-ray tube – no glass
- Swappable anodes from 1.5mm - 4mm

### Accessories

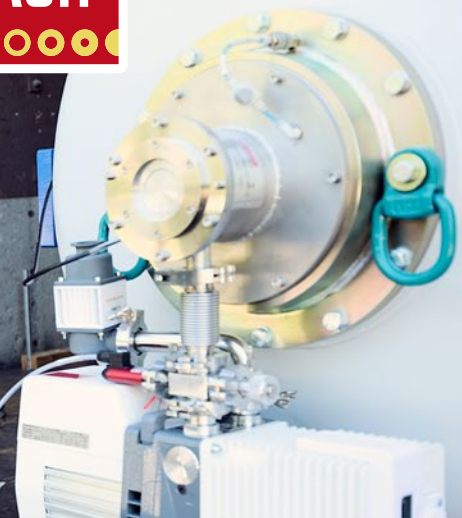
- TE1200A extension tube
- 700 series compressors
- IB200 security units

### Applications

- Internal ballistics investigations
- Barrel and chamber diagnostics
- Thick armor penetration studies
- Hypervelocity impact research
- High-density impact research
- Explosive and shaped charge evaluation
- Large-scale dynamic material experiments



[www.scandiflash.com](http://www.scandiflash.com)



## SCF1200

<b>Output voltage (kV)</b>	650-1200
<b>Output peak current (kA)</b>	10
<b>Pulse width (ns)</b>	20
<b>Dose per pulse at 1m (mR)</b>	65
<b>Penetration of steel at 2.5m</b>	60mm
<b>Source size</b>	1.5 - 4mm
<b>Dual tube option</b>	No
<b>Multi anode option</b>	No

### DEMONSTRATION

Tungsten rods were inserted into a pipe with 2 cm steel wall thickness, creating a combined 4 cm steel barrier for X-rays to traverse. The resulting image clearly reveals the rods, forming a well-defined shadow pattern despite the substantial attenuation. This capability enables high-fidelity imaging of internal ballistics in large, thick-walled gun barrels.



scan this for more info



#### Up to 1200 kV for demanding investigations

The SCF1200 Flash X-ray System is the most powerful high-energy flash X-ray platform in the Scandiflash portfolio. Designed for experiments where penetration, precision and reliability are critical, it delivers ultra-short 20 ns X-ray pulses at energies up to 1200 kV.

This capability enables radiographic imaging through centimeters of steel while capturing events occurring at velocities up to and exceeding 10 km/s. When optical diagnostics cannot see beyond the surface, the SCF1200 reveals what is happening inside. In extreme environments, clarity is decisive.

#### Engineered for high-energy stability

Operating at 1200 kV requires a robust and stable architecture. The SCF1200 integrates pulser and X-ray tube into a hardened configuration designed specifically for extreme voltage levels. The stainless-steel vacuum housing eliminates fragile glass components and ensures durability in both laboratory and proving-ground environments.

#### Scandiflash Marx Generator technology

The SCF1200 is optimized for repeatable pulse generation and predictable performance across a wide voltage range. High energy does not mean high complexity. The SCF1200 is engineered to make advanced diagnostics controlled and manageable.

#### See inside thick steel structures

Internal ballistics and high-density material studies demand more than high speed – they demand sufficient energy to penetrate defensive and containment structures during live operation.

The SCF1200 generates up to 10 kA peak current and can penetrate as much as 60 mm of steel under typical conditions. This allows researchers and test engineers to visualize projectile position, pressure-driven deformation, structural response and transient failure mechanisms inside barrels, chambers and armored assemblies instead of inferring internal behavior from external results, you can directly observe and measure it.

#### Trigger certainty at maximum output

At extreme energy levels, timing reliability is critical. The SCF1200 incorporates automated pressure optimization relative to selected voltage settings, minimizing the risk of pre-fire events or trigger failure.

The operator selects the desired voltage. The system configures itself accordingly. This ensures consistent pulse delivery, reduces experimental downtime and supports high-value test programs where there may be only one opportunity to capture data.

#### When maximum penetration is non-negotiable

Where penetration depth and diagnostic certainty are essential, the SCF1200 provides the required capability and extends flash X-ray diagnostics into the highest energy range available from Scandiflash. It enables direct insight into dynamic events occurring inside thick steel structures – *replacing guesswork with clarity and precision diagnostics.*

For advanced materials dynamics and internal ballistics research, the SCF1200 delivers energy and confidence in equal measure.