

Static Var Compensation Systems for Improved Production and Power Quality

With more than 20 years of experience in static var compensation, Converteam is a recognized leader in the industry. More than 100 SVC installations are now operating worldwide and more than 30,000 megavars have been installed.

Heavy duty inductive loads produced by electric arc furnaces, rolling mills, large electric motors and similar equipment create substantial problems for electric utilities in terms of low power factor and voltage flicker. Furthermore, for industrial power users, voltage and var problems translate to high utility cost and reduced productivity, including unscheduled plant downtime. The most effective solution is found in Static Var Compensation.

Improved power quality and enhanced productivity with Static Var Compensation



Converteam offers a range of cost-effective solutions to power quality challenges through the design and construction of Static Var Compensators (SVC) for industrial plants and power stations.

For **Metals** and other heavy industries, our SVC systems mean:

- more efficient power utilization
- lower costs
- increased productivity from existing facilities
- improved power quality

SVC solutions can typically pay for themselves in two years or less.

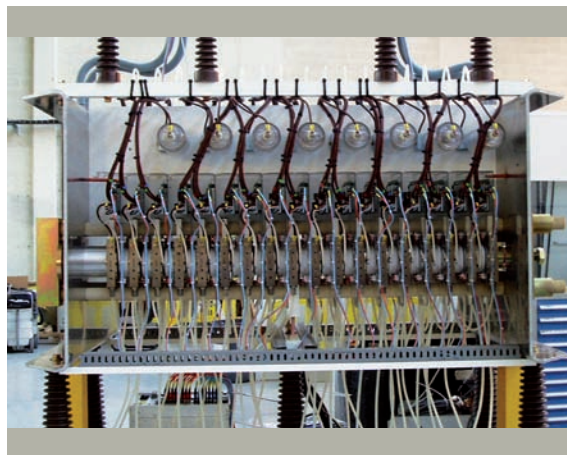
By ensuring stable and steady voltage supply to electric arc furnaces, SVC systems can provide more active power to the furnace; shorten tap-to-tap times; extend the life of electrodes, ladle, and refractory linings; and boost productivity by as much as 30 percent.

Typical scope of supply

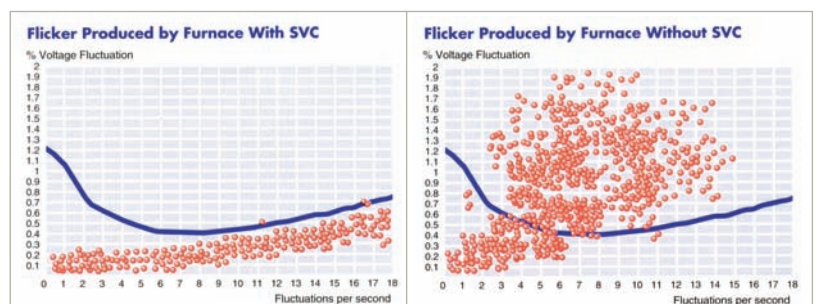
Converteam's SVC solutions for improved production and power quality range from initial system studies to integrated turnkey systems...or any level in between.

We can supply:

- Any or all necessary studies
- Electrical engineering
- Civil engineering
- Equipment installation
- Commissioning
- Performance testing
- Training



- Converteam offers:
- Extensive industry experience
 - High system availability / reliability
 - Flexibility in system configuration
 - Water-cooled thyristor converters
 - A user-friendly operator interface
 - A state-of-the-art SVC solution



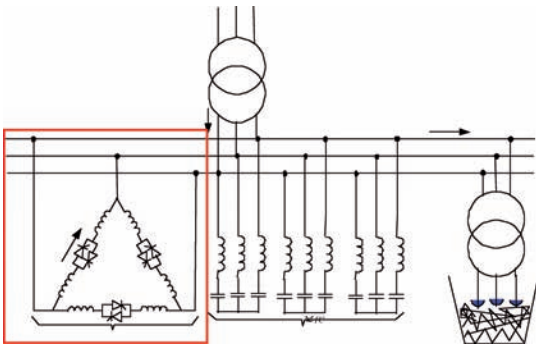
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Advanced technologies for customized solutions

Because Converteam offers a variety of options in basic system configurations and thyristor controllers –combined with technological advanced, user-friendly digital control systems- power compensation solutions are carefully matched with the specific requirements of each application and its operating environment.

To optimize operating efficiencies at the lowest possible price, Converteam manufactures two types of thyristor controllers, each offering distinct application-specific advantages.

Configurations are designed to maximize available floor space, and to minimize downtime when individual thyristor replacement is required.



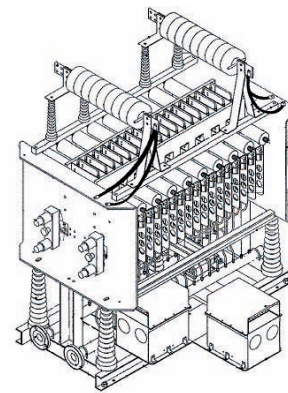
Digital control system

Precise control system and simplified operation are provided by a digital control system with an easy-to-use PC-based operator interface terminal and monitor. It enables an operator to easily start, stop, reconfigure, and trouble-shoot the entire system. Start-up/shutdown sequencing is automatic; thyristor protection and failure monitoring is standard. And remote monitoring options are readily available.

A transient fault recorder, used to capture pre-fault and post-fault data in case of an unscheduled shutdown, may also be added.

Monitor display selections include:

- SVC power circuit and monitoring
- SVC cooling systems and monitoring
- Minor alarms
- Alarm/event history



Benefits for our customers

Converteam engineering capabilities can meet the requirements of industrial system users through system studies and power system measurements to determine expected levels of voltage flicker, power factor, harmonic distortion, and busbar voltage stability.

- **Increased power factor:**
installation of an SVC system eliminates power factor penalties and maximum demand penalties.
- **Increased busbar voltage stability:**
Converteam designs SVC systems to maximize system integrity and performance.
- **Reduced voltage flicker:**
our SVC systems employ advanced high-power thyristors and digital control technology to compensate for voltage fluctuations.

- **Limited harmonic distortion:**
we can design the optimum flicker characteristics tailored to specific installations. In addition, all components are designed to resist potentially severe transients.
- **Return on investment:**
our systems can substantially cut operating costs by reducing refractory wear and electrode consumption. SVC systems also increase revenue by boosting steel production through continuous stabilization of furnace busbar voltage. Reduced meltdown times in SVC-equipped furnaces typically result in a 10 to 30% increase in production and, consequently, an economically viable payback on any investment in static var compensation.