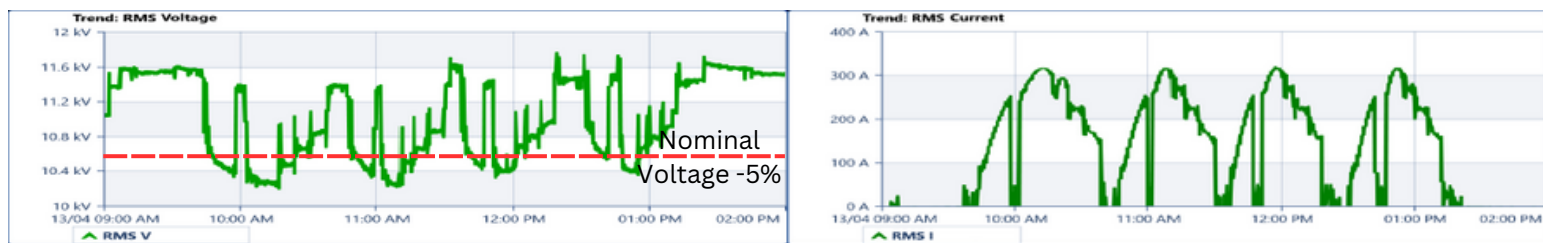


PQE MV Solid State Reactive Power Compensation System



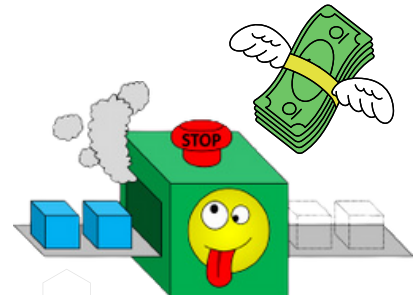
Medium Voltage Dynamic Load without Timely Reactive Power Compensation System caused Internal Voltage DIP

Medium Voltage Dynamic Load startup causing serious bus voltage drop, resulted unsuccessfully motor startup attempt. The bus voltage drop also caused interruption to other connected loads.



Impacts on manufacturing process

- Variable Speed Drives (VSD) could not work properly during a voltage dip. The operation of firing circuits which control power electronics cannot be sustained when there is a voltage dip.
- Sensitive equipment's protection device may be triggered causing it to trip.



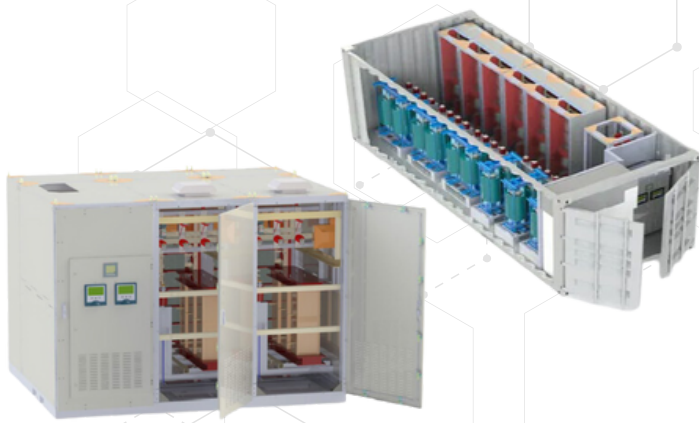
Application

- Medium Voltage Dynamic Loads i.e. Pump / Motor, Chiller, Cooling Tower, Mill, Cruncher, Shredder, Extruder etc

Benefits

- Zero Crossing Transient Free, less than 20-millisecond Acquisition time
- Medium Voltage Reactive Power, Harmonics, Voltage drops, Flickering for dynamic loads.
- Able to suppress motor startup current to max 1.25x I norm.
- Advanced control, recording and I²t protection.
- Highest efficiency (lowest losses), the most efficient solutions in the market





- Ultra-high power medium voltage thyristor switching technology, providing transient free smooth switching by connecting capacitors at zero-crossing.
- Use to enhance voltage stability of the grid / power system with rapid loads and will prevent machinery downtime.
- Offer wide range of MV power factor correction systems up to 115MVar for both outdoor and indoor installation.

Typical Applications

- Power Utilities
- Water Utility's (water pumps)
- Unbalanced Rapid Loads
- Arc Furnaces
- Woodchippers, Extruders
- Welding Operations
- Car Crushers & Shredders
- Industrial Mills
- Mining Mills, Shovels and Hoists
- Harbour Cranes

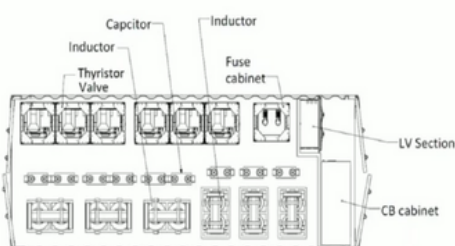
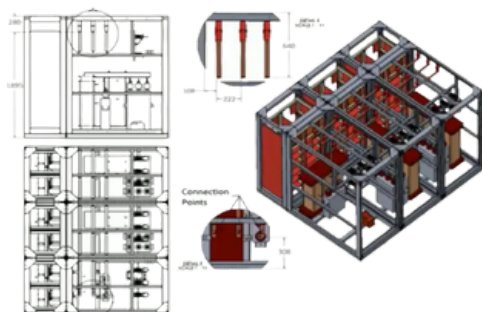


Welding Process

- Improve Welding Quality & Reduce Scrap/Reprocessing
- Increase Production Output
- Stabilize the Network Voltage
- Optimize the Use of Existing Power System
- Reduce Maintenance Costs

Extruder Process

- Improve production Quality & Quantity
- Reduce Scrap/Reprocessing
- Stabilize the Network Voltage
- Optimize the Use of Existing Power System
- Free up Power System service Utilizing Index (Lower Current, Reduced Heat, Lower System Losses) – Saves KWH



Power Quality Solution For Medium Voltage Dynamic Loads

- Real Time Full Compensation in Less than 1-cycle (20-millisecond)
- Transient-Free Solid-State Switching – Stabilization of Bus Voltage