

POWER QUALITY COMPENSATOR

BENEFITS FOR STEEL PROCESSING

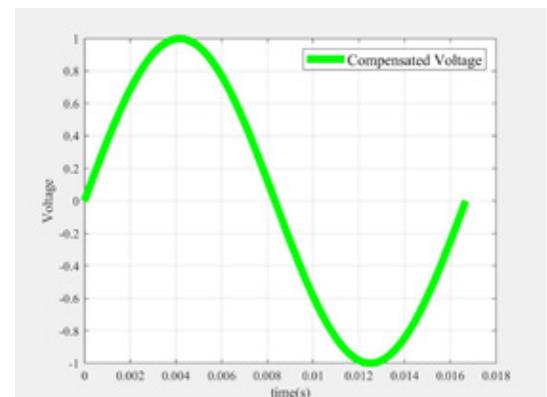
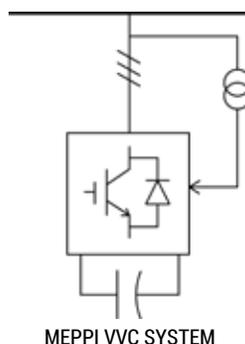
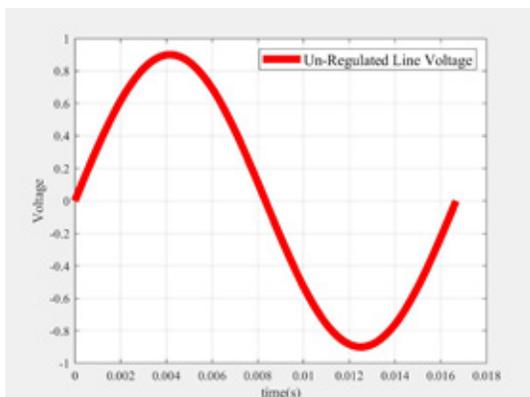
Mitigate Your Power Quality Issues

Electric Arc Furnaces (EAF) and Ladle Furnaces (LF) are significant energy users in steel plants, leading to notable CO₂ emissions and power quality issues. The MEPPi Power Quality Compensator (PQC) ensures steady voltage and increased RMS plant voltage which increases arc efficiency and reduces both CO₂ footprint and electrode consumption. This also minimizes flicker and power fluctuations, offering enhanced process reliability.

Submerged Arc Furnaces (SAF) and Open Bath Furnaces (OBF), while less problematic than EAFs, still face power quality issues that MEPPi PQC's ability to stabilize voltage improves their operation. Energy inverter-based furnace technologies also encounter similar challenges, which are effectively managed with the MEPPi PQC for optimal performance.

Voltage Regulation/Flicker Mitigation

Mitigates voltage variation by VAR and Watt injection



ADVANTAGES

- ◆ Higher productivity by reducing melt-time in steel plants.
- ◆ Increased production (typically 7-10%).
- ◆ Reduced energy consumption (typically 7%)
- ◆ Reduced CO₂ generation per ton (depends on fuel mix)
- ◆ Reduced electrode consumption (typically 0.15-0.18kg/ton)
- ◆ Grid code compliance
- ◆ Enabling the EAF operation on a weak grid
- ◆ Flicker mitigation (60-70% reduction is typical)
- ◆ Stable and increased RMS Voltage
- ◆ Improved Power Factor increases the RMS plant voltage, which increases the arc efficiency
- ◆ Reduced harmonics extends motor and transformer life while increasing efficiency
- ◆ Longer service life of equipment



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