



APPLICATION EXAMPLE

ECOsine™ Active
Increased grid quality for
water/wastewater treatment facilities

 **SCHAFFNER**
energy efficiency and reliability

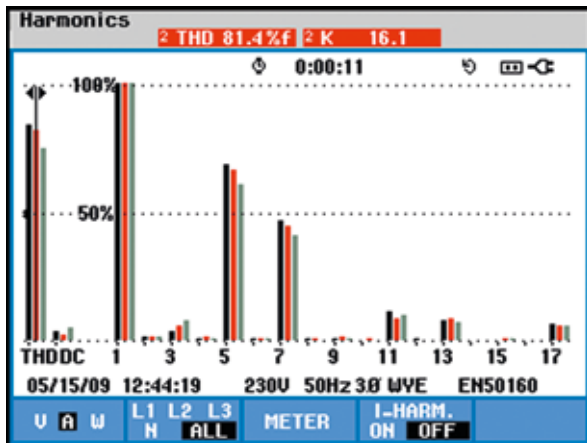
ECOsine™ Active – Increased grid quality for water/wastewater treatment facilities

Clean power for pure water

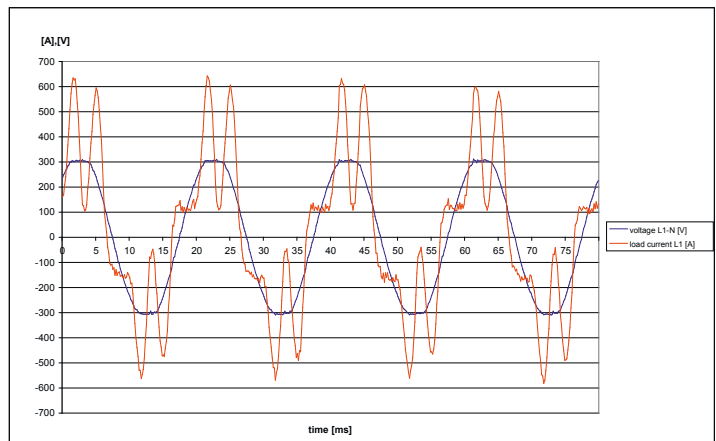
Central wastewater treatment facilities need to meet stringent requirements in order to operate reliably and in an environmentally compliant manner. The responsible persons have, in particular, to ensure the availability of the plant on a 24/7 schedule.

Municipal sewage treatment plant in a German town

Numerous variable speed drives for pumps and fans generate a harmonic content of the current in the supply that can lead to thermal overload of the electrical infrastructure and to malfunctions of sensitive equipment. In this application example, the power factor correction (PFC) equipment suffered from significant additional losses caused by the harmonics.



Harmonic spectrum without active harmonic filter

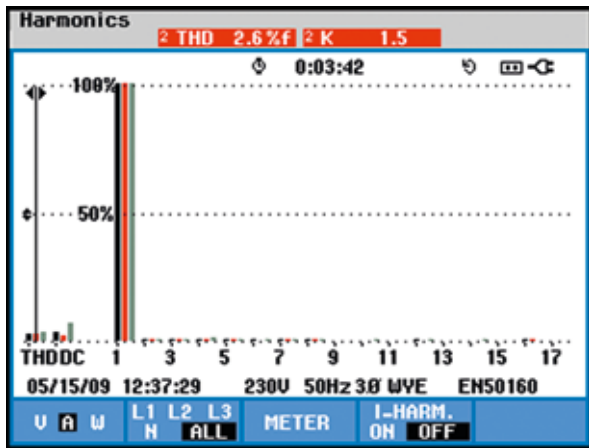


Voltage and input current without active harmonic filter

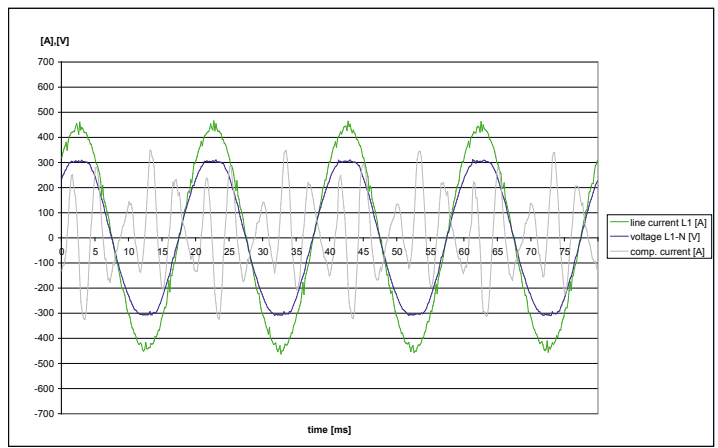
ECOsine™ Active ensures maximum system availability

The installation of ECOsine™ Active with a compensation current of 300A (FN 3420-300-480-3) brought the required electrical and thermal relief to the PFC. The considerably improved power quality even made possible the installation of a back-up generator in case of a blackout, previously impossible because of the prevailing harmonic content.

ECOsine™ Active's unique capability to adapt to the situation of grid and load at any one time, ideally guaranteed the reliable continuous operation of the wastewater treatment plant.



Harmonic spectrum with ECOsine™ Active



Voltage and input current with ECOsine™ Active as well as the compensation current of the filter



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