



HARMONICS? COMPENSATE THE ACTIVE WAY!

FRAKO OSF EZ-Series Active Filters
with Intelligent Power Quality Management

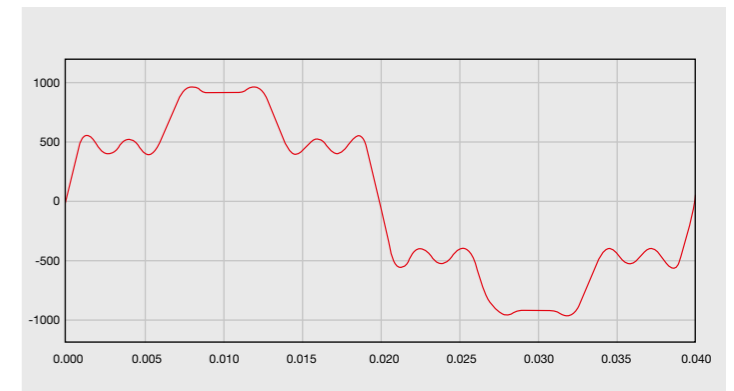


FOR HASSLE-FREE OPERATION

Disruptions due to harmonics are a menace to productivity. Effective system planning, the right choice of electronic instrumentation and equipment followed by careful maintenance: these are the means to minimize the risk of plant upsets. FRAKO supports you all the way with power quality solutions!

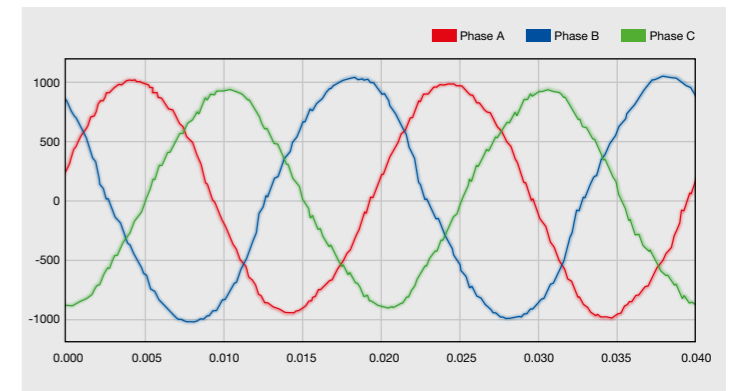
Active harmonics filters are an ideal means of ensuring good power quality in sensitive installations. FRAKO OSF EZ-Series active filters offer a flexible solution that can be implemented exceptionally quickly.

The FRAKO OSF EZ-Series is hallmarked by its modular design, making first installation simple and extensions uncomplicated. You can therefore introduce power quality management swiftly and efficiently, and adapt it to meet changing requirements. Another advantage of FRAKO OSF EZ-Series active filters: they are easy to operate and networked control of several filters is possible, even though they may be located at different sites.



Current in a nonlinear load

Nonlinear loads increasingly give rise to problems with harmonics and network resonance. FRAKO OSF EZ-Series harmonics filters, acting as part of a FRAKO power quality management (PQM) system, ensure that network perturbations do not become a danger for equipment, machines and installations, thus minimizing disruptions to your industrial operation.



Shape of the load current curve with an active filter

In an ideal unpolluted network, the shapes of the current and voltage curves are purely sinusoidal. In an ideal circuit that only contains linear elements – resistors, inductors, capacitors – the current that flows is proportional to the voltage across it (for a given frequency). This applies not only to the RMS values but also to every momentary value of current and voltage, even though the current usually lags or leads its corresponding momentary voltage. In practice, however, nonlinear loads such as variable speed drives give rise to currents that do not follow a sinusoidal curve.

ASSURED POWER QUALITY TODAY AND EVERY DAY

Modern processing and manufacturing systems present ever increasing challenges for the electrical power supply. With the intensified networking of various environments and systems suppliers – nowadays formulated in the ‘Industry 4.0’ concept – the demands made on harmonics compensation devices continue to grow. FRAKO OSF EZ-Series active filters are the reliable and cost-effective way to improve power quality. For today and in the years to come – the straightforward solution with a minimum of expenditure.

In some installations the level of harmonics is not easy to predict. Many IT systems, for example, are constantly restructuring the configuration and locations of their hardware, so that the harmonics spectrum is also permanently in a state of change. The flexible concept of the FRAKO OSF EZ-Series solves this problem economically.

Harmonics can cause fires if electrical equipment, such as transformers, overcurrent protection devices, control systems, etc., which are completely safe at the normal supply frequency, become overloaded by currents at higher frequencies. In recent years this problem has become worse, since it is an ever growing practice to connect nonlinear loads to the power supply in all manner of electrical installations. With FRAKO OSF EZ-Series active filters you have this problem securely under control.

In electrical apparatus such as capacitors, transformers and 3-phase-motors, harmonics result in increased energy losses and thus higher operating temperatures and shorter service lives. The network impedance depends on the frequency, so that the voltage harmonics that are generated can diminish network power quality and have a disturbing effect on other electronic equipment. With the increasing numbers of nonlinear loads it is probable that network pollution by harmonics will continue to grow. The installation of FRAKO OSF EZ-Series active filters offers the appropriate solution in this case as well.

FRAKO OSF EZ-Series active filters are ideal for:

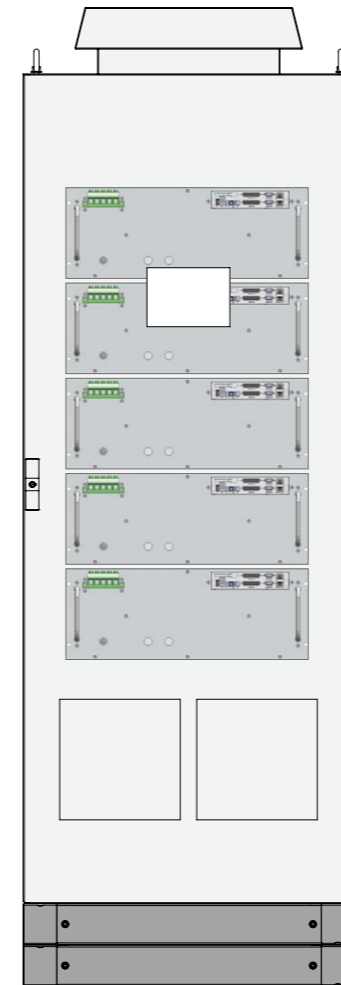
- Office complexes
- Commercial premises
- Manufacturing sites
- Machinery
- Drives
- Energy parks
- Offshore applications
- Hospitals



FRAKO OSF EZ-SERIES ACTIVE FILTERS

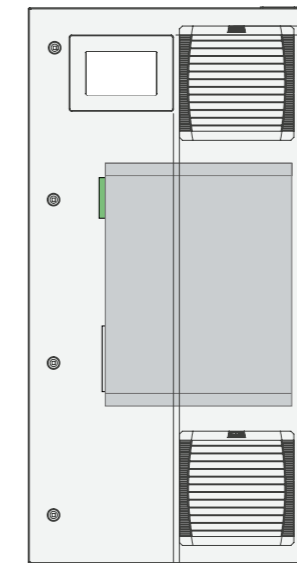


The modular design of FRAKO OSF EZ-Series active harmonics filters means it is no problem to adapt the system to the new situation if the installation is extended at a later date. This flexibility makes it possible to select the nominal size of filter simply to suit current requirements. Any additional capacity needed later, such as extensions to the installation, can be provided at any time just by adding extra modules.



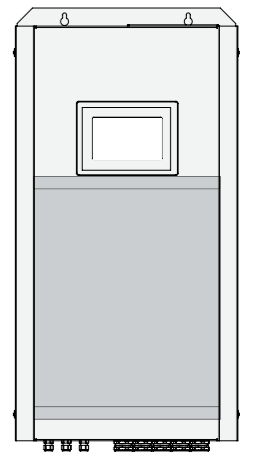
OSF EZ-Series modular cabinet

W/H/D 800/2160/605 mm
Extendable in modules
60-300 A



OSF EZ-Series compact cabinet

W/H/D 625/1225/264 mm
W/H/D 625/1225/520 mm
60-120 A



OSF EZ-Series wall cabinet

W/H/D 504/980/292 mm
W/H/D 504/980/516 mm
60-120 A

Please refer to our product catalogue for further technical data.



ACTIVE FILTERS AND ACTIVE SERVICE

With our PQM system and EMVIS 3000 visualization software you have a comprehensive overview of all monitoring, alarm and control functions at your fingertips. Universal interfaces enable data from other systems or controllers to be transferred. The FRAKO PQM system offers you a solution that will continue to stand you in good stead in the future – also bearing Industry 4.0 in mind.

The FRAKO Supervision Service is also available to customers for system diagnosis and remote maintenance. Over and above system configuration, this offers the following benefits:

- Continuous monitoring for high operational reliability
- Continuous checking of all parameters by dedicated diagnosis specialists
- Efficient capacity utilization for installations in operation
- Optimized maintenance intervals
- Reduction of running costs
- Predictive maintenance

www.powerquality40.de



FRAKO Kondensatoren- und Anlagenbau GmbH Tscheulinstrasse 21a D-79331 Teningen / Germany
Phone: +49 7641 453-0 Fax: +49 7641 453-535
sales@frako.com www.frako.com