

components

**Power Quality**  
Increased Reliability

**SCHAFNER**

safety for electronic systems





## Schaffner GROUP

Schaffner – quoted on the Swiss stock exchange since 1998 – is the international leader in electromagnetic compatibility (EMC) and power quality, focusing on high-growth sectors such as the automotive industry, building automation, industrial electronics, consumer goods, aerospace, medical technology, power supply systems, telecommunications, transportation, and alternative power generation. Schaffner develops, produces, and markets standard and customer-specific components and modules. On the basis of our own worldwide engineering and distribution organization and a broad partner network we are globally present and always close to our customers.

### A global one-stop shop

#### EMC filters

- PCB filters
- IEC inlet filters
- Single-phase filters
- Three-phase filters
- Three-phase + neutral line filters
- Open frame filters

#### RFI suppression chokes

#### Feedthrough filters and capacitors

#### Automotive components

#### Customized solutions

#### Power Quality

- Line reactors
- dv/dt reactors and filters
- Sine wave filters
- Harmonic filters
- Regen reactors and filters

#### Customized solutions

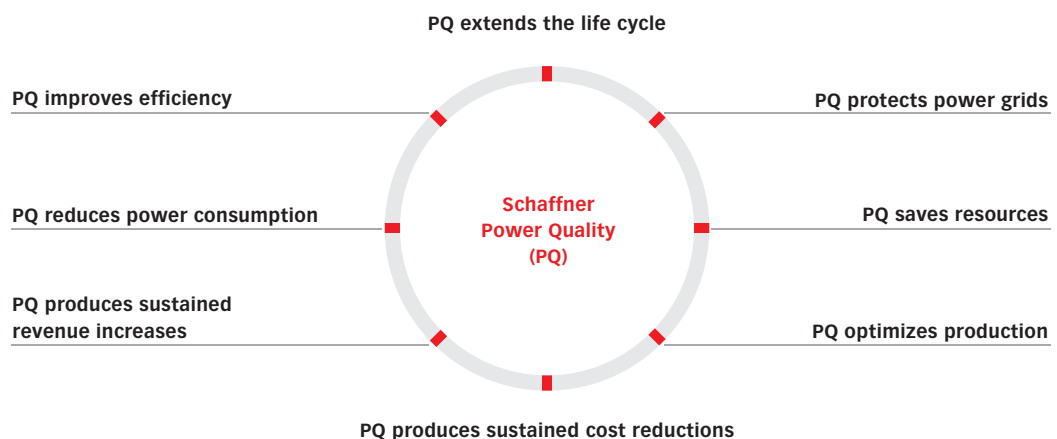
## Power Quality.

There is hardly a product that can be manufactured or marketed without electrical power. No engine, no machine, no car, no computer, no washing machine, no plane, no yogurt and no robot. There is just about nothing that does not need electrical power.

**Electrical power forms the basis of the global economy.** Power quality is, therefore, primarily an issue for economic leaders, entrepreneurs and senior managers. In this context, Schaffner's interest is not in the supply and distribution of electricity (utilities) in general, but in frontline industrial consumers. For it is particularly here that improving power quality frees up idle potential and capital. It enables energy to be used more efficiently, optimizes the effectiveness of electrically-driven machines, equipment and systems, minimizes their wear-and-tear and increases their life cycle. Clean, uninterrupted power yields ecological and economic benefits. Higher output and greater reliability, less consumption.

**Key issues for the industrial future.** How good is our electrical power, and how can we improve its quality? These are the future issues for industry. Schaffner provides the answers: it is the world's first company to be able to provide a one-stop shop for custom and system solutions for EMC, power quality and energy (re-)generation while complying with internationally applicable quality and efficiency standards.

**Better power quality means greater benefit.** Suboptimal power quality results in substantial additional costs and can damage or even destroy sensitive equipment. This can either be through variations (spikes, dips) in voltage, fundamental frequency and voltage shape (harmonic distortions) or high-frequency noise occurring sporadically or repeatedly, impulse-type interferences, or impedance in energy transfer installations. The damage caused can be eliminated once and for all using Schaffner's power quality solutions.



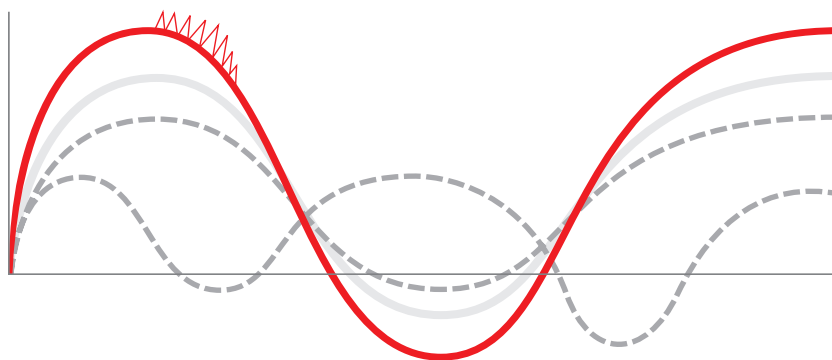


## An ideal form of energy efficiency.

Recent times have seen a substantial increase in harmonic distortions of mains voltages. One of the reasons for this is the increase in power electronics which are being used increasingly, e.g., in frequency converters for motor controls or modern power supplies. To protect devices supplied by the same network, intelligent counter-measures are required. The key technology here involves EMC filters, harmonic filters and output filters. These are devices that counter the impulse flows in power electronics in such a way that the power quality approximates its ideal state – sine wave currents and voltages. This improves power quality for the other electricity consumers and, at the same time, optimizes the costly energy demand of connected equipment and enables cost savings to be made when sizing systems, equipment and components.

Investing in Schaffner's power quality solutions yields both technical benefits and, even more so, financial advantages.

**Power quality pays off, always and forever.**



Simultaneous occurrence of harmonics and EMC effects.



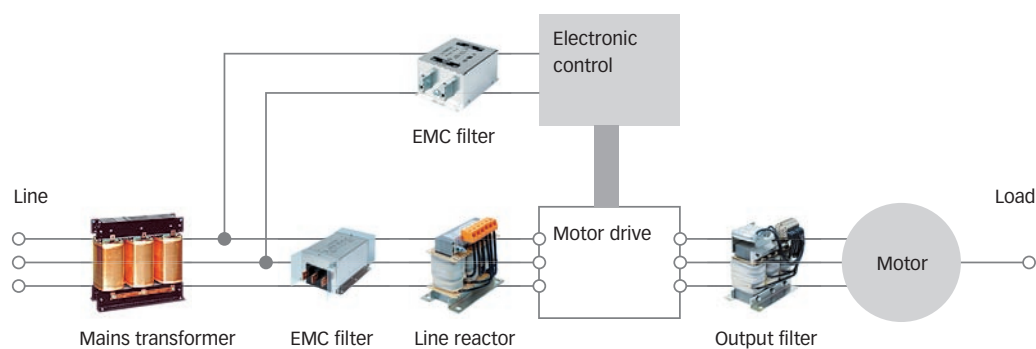






## Advanced synergy – a one-stop shop for power quality and EMC.

Anyone that benefits from power quality also usually gets benefit from EMC, and vice versa. Improved power quality in combination with EMC delivers exponential added value. In 2006, Schaffner took over Germany's Jacke Transformatoren GmbH, a leading manufacturer of power magnetics, reactors and transformers, to give customers access to this added value. Schaffner has thus brought all its technology and engineering expertise to bear on the whole area of magnetic components. The systematic combination of power quality solutions and complementary EMC solutions unleashes a potential synergy that can provide sustained improvements in client-side added value. This is particularly true because Schaffner and Schaffner Jacke offer a global one-stop shop for bespoke EMC, power quality and energy (re-)generation solutions and, at the same time, can guarantee that they are implementing internationally applicable quality and efficiency standards.



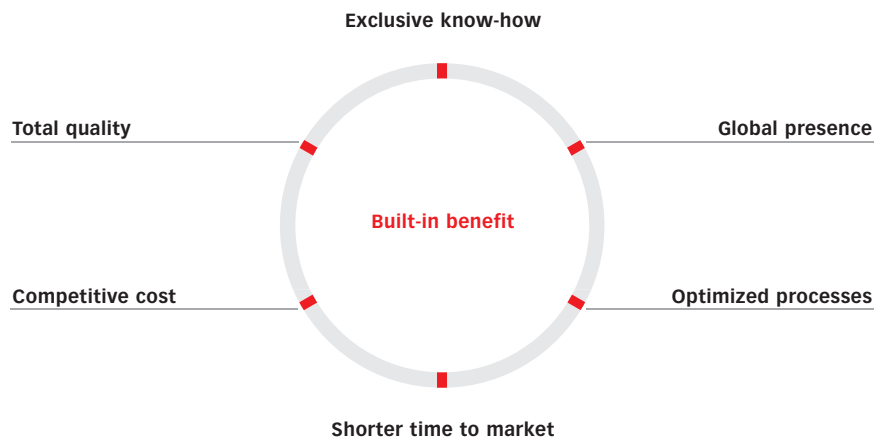
A typical motor controls application in factory automation and machinery engineering.



## Built-in benefit.

Schaffner Power Quality represents built-in benefit the world over. Schaffner develops and produces electric and electronic high-tech components for every imaginable application in the EMC and power quality area. Not only do we supply top-class products, we also offer an extensive range of services – from face-to-face, on-the-spot advice through joint engineering to all the services related to homologation and certification.

Our methodology is based on six success factors. These are optimally combined for each project so that each Schaffner customer gets precisely the solution that will benefit him most.



**Strength in innovation, fast prototyping, engineering and bespoke production result in solutions that fit perfectly into our customers' value chain.**

Our engineers have access to the Schaffner Group's entire stock of knowledge and experience, which provides them with a unique set of technological resources. At the same time, we work as closely as possible with our customers so that the jointly defined EMC and power quality solutions deliver measurable results from the very beginning – built-in benefit.









## **Worldwide presence, global experience, unique proximity to customers.**

Schaffner operates worldwide and on the principle of staying as close as possible to customers. We develop with our customers and at their sites. We manufacture in their vicinity. Throughout the world we guarantee identical quality and efficiency standards and, above all, we are the first and only company in the world to provide a one-stop shop for power quality and EMC.

Schaffner has decades of inter-continental experience and has its own worldwide sales and production networks. We have our own production sites and many subsidiaries on every continent. Our engineers and consultants do not simply have command of the relevant language, they also come from the same cultural background as their customers. So the proximity to customers that Schaffner prizes takes on a special quality.

Schaffner gives you what are possibly the most crucial market services to increase your return from your electrical energy operations –

### **safety and efficiency for electronic systems.**

We look forward to talking to you.







safety for electronic systems

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