



## Your competent partner for

### **EMC Products & Services**



# YOUR BENEFITS Why you can trust EPA!

#### **Quality comes first**

Our products are subject to strict quality control. Our development department collaborates with our suppliers to always ensure only high-quality materials are used.

Our quality management system is certified to ISO 9001. In addition, our quality assurance staff check the finished products to make sure only perfectly manufactured items are released for delivery: control of self-control!

#### **Experience**

After more than 25 years of successful business, EPA GmbH is now one of the leading providers of EMC components. Since the company was founded in 1988, we have established ourselves in many industrial areas. We analyse your requirements and provide the corresponding solutions.

#### **Everything from one source**

Our comprehensive EMC Consultation guarantees bespoke advice. The complete EMC solution comes to you from a single source: EMC measurements in our own laboratory or on site, result analysis, selection of standard filters or development of customized solutions and their production. This ensures reliable and standards-compliant operation of your system.

#### **Economy**

Our know-how guarantees innovative technology at a fair price that makes your products future proof. More and more sensitive equipment in a confined space require appropriate EMC filter technology for trouble-free operation. The EPA product range offers a cost-effective solution for every need.

#### **Free Phone Support**

With EPA, you talk to people using a standard rate phone line at no extra cost. We advise you when choosing the appropriate products or to help during commissioning. In case of urgent requirements, you can also speak with us outside normal business hours. We don't use an answering machine!

#### **Custom Labels**

Would you like additional logo labels or printing with your own company name on of the package or the product? Custom printing is available upon request.

#### **Special Requirements**

Does your company use a JIT or kanban system? No problem - we can work together with you to accommodate this.

#### **Special Solutions**

If you need a specially tailored solution for your application or equipment, please contact us. We have the experience, the know-how and the necessary equipment to tackle this task with you.

#### **EMC** measurements

Technologies must operate reliably and safely in different environments. With our advanced EMC measurement equipment, we test for possible incompatibilities, either in our laboratory or on-site. Compliance to current EMC standards can be ensured, to help achieve CE conformity.

#### **Our EMC testing service**

We offer you the opportunity to test your equipment and devices in our laboratory / anechoic chamber or on-site to the standards listed below:

#### Interference voltage (Conducted Emission of 150 kHz to 30 MHz)

- EN 61000-6-3 Generic standard for emitted interference in residential areas
- EN 61000-6-4 Generic standard for interference emissions in industrial environments
- EN 55011 Product family standard for industrial, scientific and medical equipment
- EN 55014 Product family standard for household appliances
- EN 55022 Product family standard for IT devices
- EN 50370-1 Product family standard for machine tools
- EN 61800-3 Product standard for adjustable speed electrical power drive systems

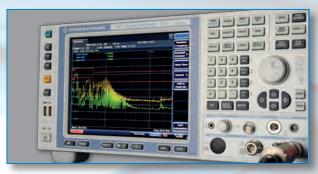
#### Interference field (radiated interference emission from 30 MHz to 1 GHz)

- EN 61000-6-3 Generic standard for emitted interference in residential areas
- EN 61000-6-4 Generic standard for interference emissions in industrial environments
- EN 55011 Product family standard for industrial, scientific and medical equipment
- EN 55014 Product family standard for household appliances
- EN 55022 Product family standard for IT devices
- EN 50370-1 Product family standard for machine tools
- EN 61800-3 Product standard for adjustable speed electrical power drive systems

#### **Immunity**

- EN 61000-6-1 Generic standard for immunity in residential areas
- EN 61000-6-2 Generic standard for immunity in industrial environments
- EN 61000-4-2 Electrostatic discharge (ESD)
- EN 61000-4-4 Electrical fast transients (EFT/Burst)
- EN 61000-4-5 Surge
- EN 50370-2 Product family standard for machine tools
- EN 61800-3 Product standard for adjustable speed electrical power drive systems











#### **EPA STANDS FOR EMC - PRODUCTS - DRIVES**

The company was founded in 1988 as EPA, distributor of frequency drives. Through the inseparable connection between electronic drive technology and EMC, in 1995 our product portfolio extended to EMC components. In

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addition to continued manufacturing of standard products, special development of EMC components was foremost. Thanks to our years of experience in the fields of interference suppression, immunity, EMC measurement and filter development, we can advise you professionally and comprehensively to design solutions. With our expert knowledge of filtering, we can assist

with projects already in the development phase with both the requirements for CE compliance and reliable operation of an installation. We are happy to offer our service on-site or in our own EMC laboratory in Bruchköbel, to improve design and avoid complications at the planning phase, offering you an individual and cost-effective solution. As a medium-sized company, we have quick development times for special solutions and short processing times for enquiries and orders. Our warehouse is over 1,500 m<sup>2</sup> with more than 2,000 different products, ensuring rapid dispatch, even within a few hours. Customer satisfaction, cooperation with the customer and performance are the credo of our company.



Let us convince you that we are the right partner for you!

#### **INPUT FILTERS FROM 1 A TO 2500 A**

- Mains filters (1-phase, 3-phase, 3-phase with neutral)
- Footprint filters for servo drives and frequency inverters
- Harmonic (1-phase and 3-phase) filters
- Line reactors

#### **MAINS FILTERS**

In a highly dynamic drive world, the EM interaction between all components plays a crucial role in a cabinet. We supply a wide range of our

own high quality-mains filters for single & three phase networks. Our mains filters are available in various





types and designs, including "low leakage current" versions. For many drive models and manufacturers, we have space-saving "footprint" mains filters, matched to the frequency inverter. We also supply line reactors to suit most drives.











#### **MOTOR FILTER / OUTPUT FILTER**

- Ferrite (EPA type OC)
- Common Mode Chokes (EPA type CHA)
- dv / dt reactors (EPA type DUDTN)
- Sine Wave Filters (EPA type SFAF)

#### SINUSOIDAL FILTERS AND CHOKES

For applications with electrically controlled drives we have line reactors, dv / dt reactors and sinusoidal filters, with rated currents from 2A - 1200A available from stock.





#### **CUSTOMIZED FILTER SOLUTIONS**

In practice, many criteria must be considered for an application optimized solution in terms of radio interference and immunity compliance. Most custom



filtering solutions are optimized both mechanically and electrically, where little installation space is available, or the leakage current to ground plays an important role (e.g. with RCCBs). Here our flexibility in design and technology are in demand.

We will be happy to help you find the best and most cost-effective solution for your application!

#### **SPECIAL FILTERS FOR...**

- Drive Systems
- Medical
- Heating, ventilation and air conditioning
- Wood and metal processing
- Machine tools and robots
- OEM machine builders
- Renewable energy
- Electrical equipment and power supplies
- Solar and photovoltaic
- Infrastructure, water and sewage
- Railway technology and automotive
- Stage and elevator technology









#### **EPA EMC MEASUREMENT LAB**

In our own measurement laboratory and anechoic chamber, emissions and immunity measurements are carried out in compliance

with applicable standards. Moreover, during development, measurements can be carried out and recorded and different solu-



tions can be tested for their effectiveness in the application. We offer many relevant EMC tests as a service!

#### IN THE TEST LABORATORY

- Measurement of conducted interference (radio interference voltages)
- Measurement of radiated emissions in the anechoic chamber (radio interference)
- Leakage current measurements
- Measurements on frequency inverters
- Measurements of stress with an energy recovery unit
- Surge and burst tests
- ESD tests
- Fully automatic measurement of mains filter insertion loss
- Development-related measurements (EMC Consulting)



#### **CE CONFORMITY**

We are happy to advise you on the subject of Electromagnetic Compatibility (EMC) within the CE requirements and on EMC problems involving your plant, machinery and equipment.



#### **ON INSTALLED SYSTEMS**

- Measurement of conducted interference (radio interference voltages)
- Interference voltage with probe
- Emissions in the frequency range from 9 kHz to 1 GHz
- Harmonic measurements up to the 49<sup>th</sup> harmonic
- Radiated emission measurement (magnetic and electrical components)
- Power quality analysis up to 2500 A
- Measurements on frequency inverters
- General EMC interference analysis
- Leakage current and fault current analysis
- Bearing current measurements on drive systems

#### **ON-SITE MEASUREMENT**

With EMC testing of the equipment in your premises, the real electromagnetic conditions are observed and evaluated for severity of conducted and radiated interference. Equipment of any kind



can be analysed irrespective of size and weight, without massive logistical effort. Our mobile testing unit uses laboratory-standard equipment to make on-site emission measurements.

#### **LEAKAGE ANALYSIS**

For safety, in electrical systems and machines with frequency inverters and servo controllers, increasingly AC/DC-sensitive residual current circuit breaker are used. This brings the problem of leakage currents to the fore. In many cases, the operational leakage current of a machine / plant can already lead to tripping of the RCD. EPA LEAKCOMP® HP unit and leakage-current reducing filters bring earth leakage to a tolerable level for the residual current circuit breakers. This may involve measurement and analysis using our EPA LEAKWATCH system.



#### **EMC Consulting = Individual advice for your project**



#### **PRE-DESIGN**

Are you about to start a new project and want to do everything right?

In line with our philosophy of "EMC-compliant control cabinet design", various EMC considerations are necessary at the beginning of your project. As part of an individual consultation at your premises, we help you to make the right choices in this important phase of the project. Errors made in the design phase can cause the

downfall of a project or be very difficult, and therefore expensive, to fix.



#### **POST-DESIGN**

Have you just made the first EMC analysis of your

equipment and unfortunately found a problem?
Even in this situation, we offer you our help. We work with you to find practical solutions. It is important to find the simplest and quickest solution to EMC problems in all phases of a project to minimise delays.

Talk to us!





**EPA** GmbH

Fliederstraße 8, D-63486 Bruchköbel

Deutschland / Germany

Telefon / Phone: +49 (0) 6181 9704-0 Telefax / Fax: +49 (0) 6181 9704-99

E-Mail: info@epa.de Internet: www.epa.de



**EPA** on the move



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