



Proficient. Innovative. Customer-orientated
*Transformers up to 8 MVA
AC/DC Reactors up to 3000A*

- Power Transformers
- Cast Resin Transformers
- High-Current Transformers
- AC/DC Reactors
- Variable Transformers
- Voltage Stabilizers
- Toroidal Core Transformers



PRODUCT OVERVIEW

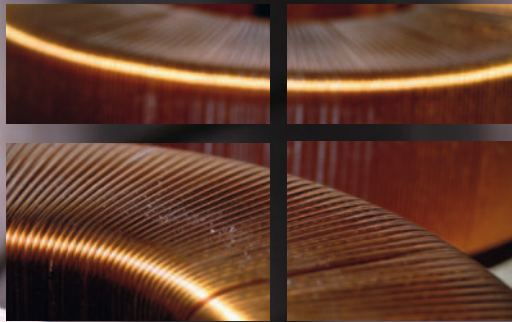
TRANSFORMERS & REACTORS





Quality knows no alternatives

Ruhstrat GmbH has many years of experience in developing and manufacturing electrical winding products. We offer more than innovative technology. We are a reliable partner and assist our clients by optimal solutions, customized products and services.



In this context it is above all essential, that we are not only carrying through the development, design, and delivery and creating systems solutions, but furthermore we offer service performances reaching from the maintenance and technical support up to the supply with spare parts.

Beside the entire standard programme, Ruhstrat's strong point is the design and manufacturing of plants and systems made to customer's specifications.

Product Overview:

- Variable Transformers from 20 VA to 2 MVA
 - variable toroidal core transformers
 - variable column transformers
- Voltage Stabilizers from 60 VA to 2 MVA
 - magnetic voltage stabilizers
 - transformer-type voltage stabilizers
- Power Transformers from 50 VA to 8 MVA
 - low voltage dry-type transformers
 - cast resin transformers
- AC/DC Reactors
 - as line reactors, smoothing reactors, compensation reactors, harmonic circuit filter reactors, and motor reactors
- Toroidal Core Transformers up to 400 kVA
- High-Current Transformers up to 30 kA



Many Branches Trust in Ruhstrat Transformers and Reactors. The key aspects of our activities are:



test engineering



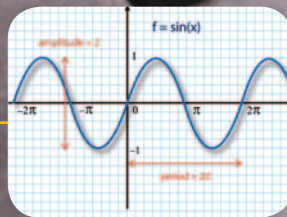
drive technology



electrical engineering



renewable energy sources



mains quality



energy efficiency



railroad energy

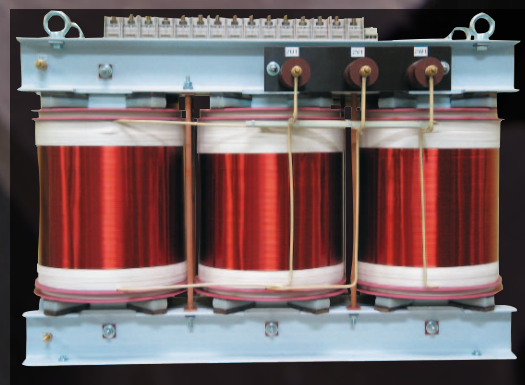
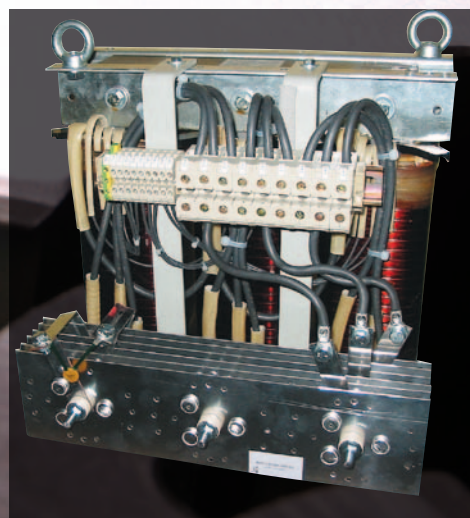


■ Power Transformers



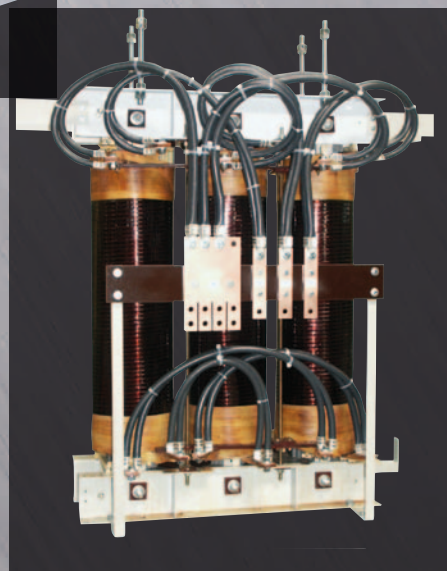
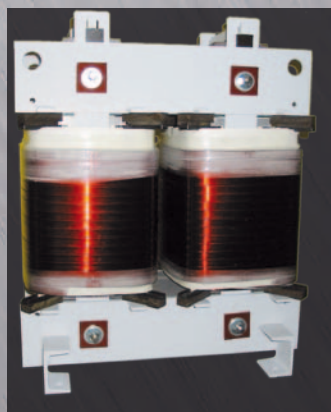
Power Transformers

- single-phase or three-phase design
- galvanically isolated winding or autowinding
- according to IEC 60076, VDE 0558, VDE 0570
- power: up to 1000 kVA
- voltage up to 10 kV
- current: up to 1000 A
- frequency: 50 Hz until 400 Hz
- types of protection: from IP00 until IP54
- with rectifier or DC power supply
- as energy-saving transformer with a power efficiency > 99 %



■ *Cast Resin Transformers*

■ *AC/DC Reactors*



Cast Resin Transformers

- according IEC/EN 60076-11, VDE 0532, DIN 42523
- single-phase and three-phase design
- power: up to 8 MVA
- voltage: up to 36 KV
- types of protection: from IP00 to IP43
- winding material: aluminium or copper
- environmental testing E2, climatic testing C2 and testing with regard to fire behaviour F1, according to IEC/EN 60076-11
- flash light test and short-circuit test according to IEC/EN 60076-1-2-3.
- application fields among others as:
 - power transformer
 - distribution transformer
 - transformer for 6-, 12-, 18- or 24-pulse rectifier operation
 - converter transformer as double-stack construction
 - step-up transformer
 - starting transformer
 - test transformer

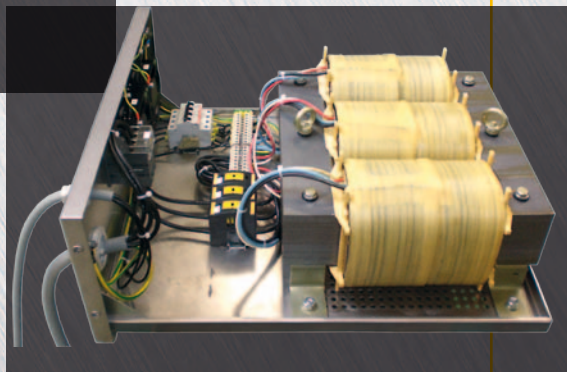
AC/DC Reactors

- according to IEC/EN 61558, VDE 0570
- single-phase and three-phase with freely selectable inductivity up to 3.000 A
- frequencies: from 16^{2/3} Hz up to 400 Hz
- as
 - line reactor
 - smoothing reactor
 - three-phase compensation reactor
 - three-phase harmonic circuit filter reactor
 - motor reactor
 - test reactor

- Power Supplies
- Toroidal Core Transformers

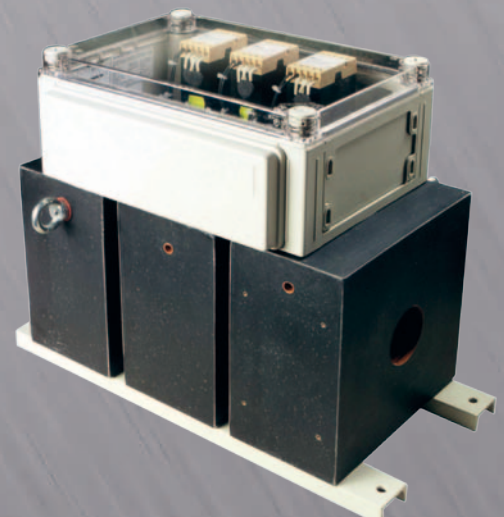
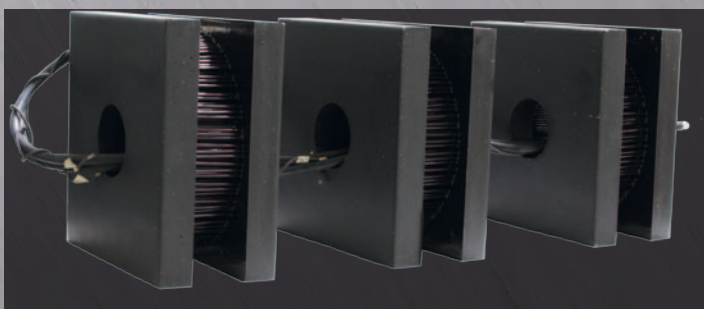
Power Supplies

- voltage and current supplies for industry and building management systems, individually made to customers specifications
- combined with industrial electronics, all switching and protection devices, electrical assembly groups, etc., which are required beside the transformer, are integrated



Toroidal Core Transformers

- according to IEC/EN 61558, VDE 0570
- single-phase and three-phase design
- galvanically isolated winding or autowinding
- power: up to 400 kVA
- as high-current transformer (actuator coil) up to 30.000 A



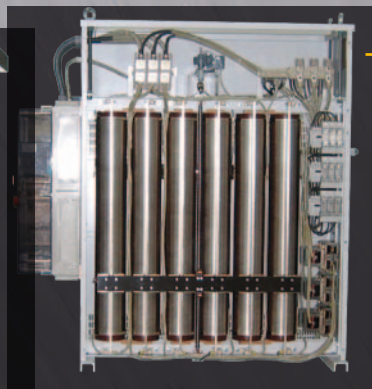
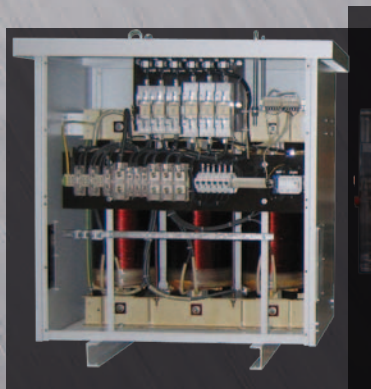
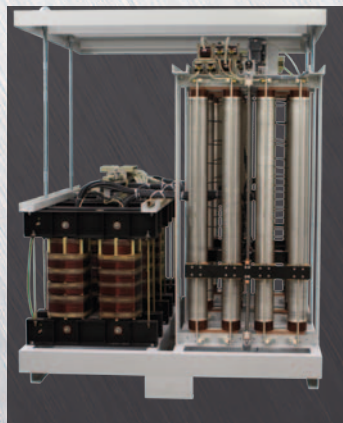
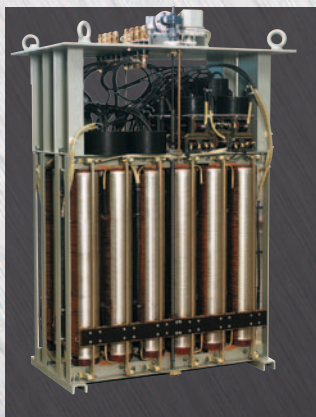
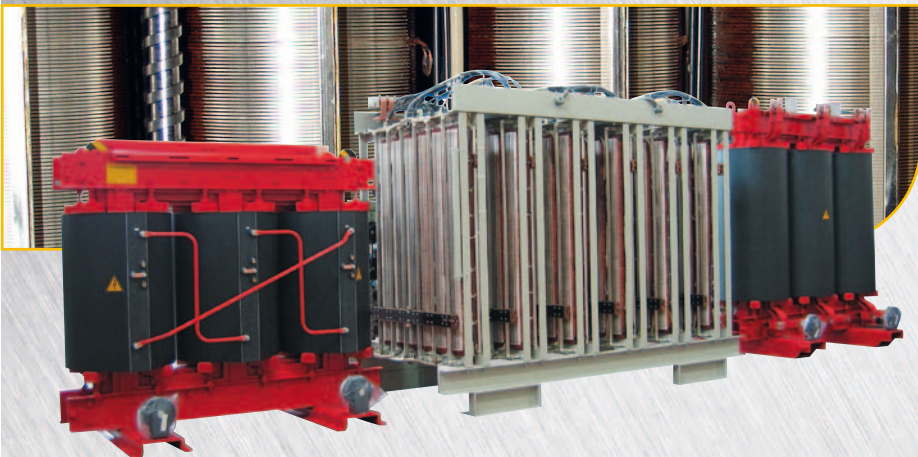
Variable Transformers

Variable Transformers

- as variable toroidal transformers
- as variable column transformers
- according to VDE 0552, IEC/EN 61558-2-14
- single-phase and three-phase design
- construction for normal or heavy-duty operation according to VDE 0552 § 5
- power: up to 2.000 kVA
- voltage: from 0 to 10.000 V
- current: up to 30.000 A
- frequencies: 16 2/3 Hz, 50 Hz to 400 Hz
- types of protection: from IP00 to IP54
- as test engineering plant including electronic control for the application as
 - AC/DC voltage supply
 - AC/DC high-voltage supply
 - high-current test source
 - Test and equivalent current source for the test and development bay

For test engineering plants Ruhstrat offers the entire range of test engineering by variable transformers, electronic control systems (SIEMENS S7) included.

For laboratory application, test fields, or mobile application – Ruhstrat develops and manufactures custom-made voltage and current supply for the continuously variable adjustment from 0 to 10.000 V and currents up to 30.000 A.



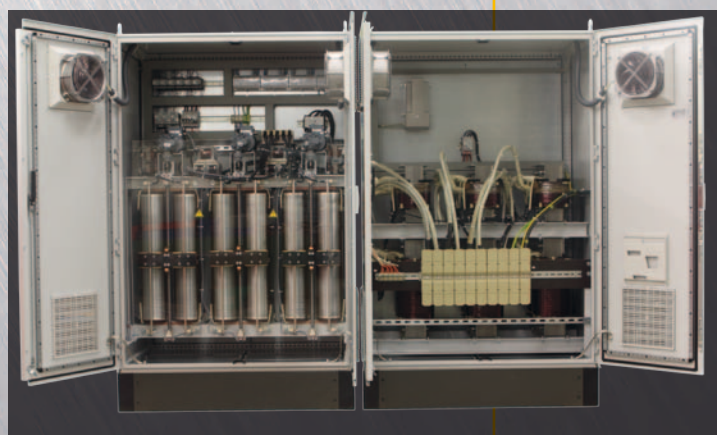
■ Voltage Stabilizers



Transformer-type Voltage Stabilizers

- according to IEC 60439-1, IEC/EN 61558, VDE 0552
- single-phase and three-phase design
- power: up to 2.000 kVA
- voltage: up to 10.000 V
- control range: $\pm 30\%$
- control speed: max. 60V/s
- types of protection: from IP00 to IP54

- Certified according to KTA 1401 for application in nuclear power plants
- optionally as earthquake-proof version



Magnetic Voltage Stabilizers

- according to EN 61558, VDE 0570
- single-phase design
- power: up to 10 kVA
- control speed from 40 to 60 ms
- types of protection: from IP00 to IP65





Industrial Furnaces

Transformers

Reactors

Power Resistors

