EXPERIENCE
Betonbau GmbH & Co. KG is an expert in the development, production and distribution of technical buildings consisting of modules made of reinforced concrete that are used in many sectors of public and industrial infrastructure. The product range is from small, non-walk-in compact stations up to large walk-in buildings, consisting of several modules, available in different structural and technical expansion levels.

CUSTOMIZED PRODUCTS
By establishing the company e³you, Betonbau has prepared itself for the future of mobility, setting the course for the implementation of an intelligent overall concept for a charging infrastructure for electrical buses and other municipal vehicles. Since 2008, Betonbau has been a part of the Schwenk Group located in Ulm.

INDIVIDUAL SOLUTIONS
Gritec compact stations were developed especially for use on an international stage and meet not only market specific, but also customized requirements.

COMPETENCE AND NETWORKING
The core competencies in energy and utilities solutions from Betonbau are combined with new, innovative technologies and product solutions, guaranteeing additional milestones for future growth.

SPECIALIST FOR SUBSTATIONS, SYSTEM INTEGRATION AND TECHNICAL BUILDINGS

TRANSMITTER COMPACT STATIONS MADE OF STAINLESS STEEL

DELIVERY OF PRE-ASSEMBLED SOLUTIONS FOR CHARGING INFRASTRUCTURE OF ELECTRIC BUSES
OVER 55 YEARS OF EXPERIENCE IN CONCRETE

FROM A SIMPLE STRUCTURE TO A CUSTOM BUILDING

Betonbau products meet the high requirements in terms of the safety and quality of technical buildings for utilities. They are based on more than 55 years of practical experience and provide many advantages to our customers.

BENEFITS AT A GLANCE

CUSTOMIZED PRODUCTS
In our factories, we produce and assemble technical buildings with more than 50 standard floor plan dimensions as well as numerous solutions tailored to our customers’ needs. The units are fitted out in the factory with the technology according to customer’s specifications.

ECONOMIC VIABILITY
- High quality and meticulous craftsmanship ensure long service life.
- Configuration options as a result of the modular design of the products
- Time saving thanks to competent consultation and sound industry competence

COMPLIANCE WITH REGULATIONS AND STANDARDS
All the technical buildings and components from Betonbau meet the requirements of relevant technical rules and regulations.

Monolithic design, i.e. made without joints and therefore extremely robust and highly durable.
RANGE OF PRODUCTS

WE DELIVER TECHNICAL BUILDINGS TAILORED EXACTLY TO YOUR SPECIFICATIONS IN ANY REQUESTED CONFIGURATION LEVEL.

PRODUCT PROGRAM

Here is an overview of the applications and products with their most important characteristics.

ELECTRICITY SUPPLY
- Walk-in-type substations
- Compact stations (non-walk-in-type)
- Stations for slopes
- Substations, partially or completely below ground level
- Substation buildings
- Buildings for emergency power generators
- Complies with standard IEC 62271-202

GAS SUPPLY
- Pressure regulation stations
- Large measuring stations
- Gas compressing plants
- Gas tank depot combination buildings
- Sound insulation value for concrete modules min. 47 dB
- Fire protection class F90 DIN EN13501

WATER SUPPLY
- Pump stations
- Water meter shafts
- Wellhead buildings
- Operational buildings
- Water treatment stations
- Pressure booster stations
- Pump stations below ground level

SPECIAL & LARGE BUILDINGS
- Multi-storey building
- Modular units – can be arranged in rows on any side
- Building block principle
- Turnkey concepts
- Variable building designs
- Planning and consultation with specialists
- Pre-construction drawings
- Static calculations

TELECOMMUNICATION
- Security against break-ins
- Fire protection class F90 DIN EN13501
- Ventilation and air conditioning tested
- Electrical fittings on request
- Pre-construction drawings
- Sound insulation value for concrete modules min. 47 dB
- Facade designs on request

RAILWAY TECHNOLOGY BUILDINGS
- Wireless and signal technology
- Security against break-ins
- Fire protection class F90 DIN EN13501
- Ventilation and air conditioning on request
- Electrical fittings on request
- Pre-construction drawings
- Facade designs on request
Sure, your building needs an entrance. Or several. Whether single- or double-winged, according to standard size or custom-made – the door to success is an eye for detail. That’s why we manufacture all metal components such as doors and ventilation elements ourselves.

- Ventilation elements and doors made of aluminum, high-strength and weather-resistant material; surface silver anodized E6 EV1
- Ventilation elements and doors with sound insulation according to technical instructions for protection against noise on request
- Doors with internal hinges; possible resistance classes RC2 or RC3 according to DIN EN 1627:2011
- Mechanical or electronic multi-point lock with emergency exit function according to DIN EN 179
- Innovative access systems (card reading unit, finger sensor, electronic combination lock)
- Of course, we supply and install all conventional standard doors and ventilation systems (steel, stainless steel, plastic).

**METAL MEETS CONCRETE**

**DOORS AND VENTILATION ELEMENTS**

**MADE BY BETONBAU**

- **OPTIONALLY WITH POWDER COATING OR LACQUER FINISH IN A RAL COLOR OF YOUR CHOICE**

All doors and ventilation openings are manufactured in-house and made to measure.
Especially if your substation is located in public areas, it is mandatory to follow a reliable personal protection concept. This concept must ensure the safety of passers-by and the operating staff alike.

Betonbau's specially developed personal protection concept provides protection against all eventualities and compliance with all safety-related standards. This means that your substation can be operated easily and safely in any location.

The safety-related requirements that our products meet include i. a.:

- Internal arc fault resistance
- Protection against electric shock (IEC 60529)
- Electromagnetic compatibility (EMC)
- For more details on compliance with standards, please refer to page 14

Compact Substation in public area for supplying electricity to a charging point

PRODUCTS TESTED AND MANUFACTURED IN COMPLIANCE WITH RELEVANT STANDARDS IS OUR BENCHMARK
In addition to avoiding personal injury, a basic factor in preserving the value of your installed technology is the generally standard-compliant design and testing of your transformer substation.

Betonbau manufactures according to the relevant German, European and international standards, directives and legal regulations. Our certified quality management system guarantees full compliance with all mentioned regulations.

**PRODUCTS TESTED AND MANUFACTURED IN COMPLIANCE WITH RELEVANT STANDARDS IS OUR BENCHMARK**

**COMPLIANCE ACCORDING TO IEC62271-202**

+ Minimum degree of protection IP 23 D
  optionally: IP 34 D or IP 44 D according to IEC 60529
+ Internal Arc Classification
  IAC-AB 20 kA 1s
+ Temperature rise tests and temperature classes according to IEC 62271-202
+ Electromagnetic capability (EMC)
  according to DIN CLC/TR 62271-208
+ Further tests according to national requirements are available upon request

*Conducting an EMC measurement*
DUE TO THE MODULAR DESIGN OF THE GRITEC SUBSTATIONS WE ARE ABLE TO RESPOND TO YOUR NEEDS - EXACTLY TO YOUR SPECIFICATIONS AND ACCOUNTING FOR THE CONDITIONS ON SITE.

- Patented, modular design
- Efficient room climatic characteristics
- Climate proof under year round conditions
- Enclosure maintenance-friendly
- Low transport weight and low transport volume reduce the freight costs
- Delivery incl. electrical fittings according to IEC62271-202 or as assembly kit optionally
- Degree of protection IP 34D acc. to IEC 60529 optionally IP44D

GRITEC STATIONS

IN STAINLESS STEEL AND HYBRID DESIGN

BASIC TYPES AND THEIR APPLICATIONS

<table>
<thead>
<tr>
<th>Application</th>
<th>Application</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformer substation for use in industrial areas and for temporary use</td>
<td>Transformer substation for use in local networks and industrial areas</td>
<td>Transformer substation for use in local networks and industrial areas</td>
</tr>
<tr>
<td>For use on rocky ground and at high groundwater level</td>
<td>For use on normal and solid ground / non-contaminated soil</td>
<td>For use on normal and solid ground / non-contaminated soil</td>
</tr>
<tr>
<td>Empty weight type 1000 kVA approx. 1400 kg</td>
<td>Empty weight type 1000 kVA approx. 5000 kg</td>
<td>Empty weight type 1000 kVA approx. 1400 kg</td>
</tr>
<tr>
<td>Foundation concrete strip</td>
<td>Foundation</td>
<td>Bed of sand or gravel</td>
</tr>
<tr>
<td>Foundation or concrete slab</td>
<td>Bed of sand or gravel</td>
<td>Bed of sand or gravel</td>
</tr>
</tbody>
</table>
COMPACT SWITCHGEAR ENCLOSURE

FOR THE SAFE SWITCHING OF MEDIUM VOLTAGE

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MAXIMUM MV SWITCHGEAR CONFIGURATION</th>
<th>MAXIMUM TRANSFORMER OUTPUT</th>
<th>MAXIMUM LV SWITCHGEAR DIMENSIONS</th>
<th>TEMPERATURE CLASS</th>
<th>IAC CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCS1211-24S</td>
<td>3 panels W=1000 mm H=1400 mm</td>
<td></td>
<td></td>
<td></td>
<td>IAC-AB20kA-1s</td>
</tr>
<tr>
<td>MCS2111-24S</td>
<td>5 panels W=1800 mm H=1400 mm</td>
<td></td>
<td></td>
<td></td>
<td>IAC-AB20kA-1s</td>
</tr>
</tbody>
</table>
TRANSFORMER COMPACT STATION
630 KVA

FOR THE SAFE POWER DISTRIBUTION OF LOW OUTPUT

**VIEW MV SIDE**

**VIEW LV SIDE**

**TOP VIEW**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MAXIMUM MV SWITCHGEAR CONFIGURATION</th>
<th>MAXIMUM TRANSFORMER OUTPUT</th>
<th>MAXIMUM LV SWITCHGEAR DIMENSIONS</th>
<th>TEMPERATURE CLASS</th>
<th>IAC CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCS229-24S</td>
<td>3 panels W=1000 mm H=1400 mm</td>
<td>630 kVA</td>
<td>W=1000 mm D=475 mm H=1400 mm</td>
<td>2D</td>
<td>IAC-AB20kA-1s</td>
</tr>
</tbody>
</table>

TRANSFORMER COMPACT STATION
1000 KVA

FOR THE SAFE POWER DISTRIBUTION OF HIGH OUTPUT

**VIEW MV SIDE**

**VIEW LV SIDE**

**TOP VIEW**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MAXIMUM MV SWITCHGEAR CONFIGURATION</th>
<th>MAXIMUM TRANSFORMER OUTPUT</th>
<th>MAXIMUM LV SWITCHGEAR DIMENSIONS</th>
<th>TEMPERATURE CLASS</th>
<th>IAC CLASSIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCS229-24S</td>
<td>5 panels W=1900 mm H=1400 mm</td>
<td>1000 kVA</td>
<td>W=1900 mm D=475 mm H=1400 mm</td>
<td>2D</td>
<td>IAC-AB20kA-1s</td>
</tr>
</tbody>
</table>
The company betonbau was founded in 1963 in Waghäusel, Germany. Thanks to continuous growth of the business, four additional plants were built in Germany plus one in Prague (Czech Republic).

These facilities form the Betonbau Group, producing more than 8,000 individual concrete modules per year with a staff of approx. 750 employees and using state-of-the-art production equipment.