



WE PROVIDE CUSTOM SOLUTIONS  
TO EVERY PROJECT



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# BETONBAU

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TAILOR-MADE PRODUCTS. THOUGHT-OUT IN EVERY DETAIL.  
OPTIMIZED FOR FAST ASSEMBLY.



## PRODUCTS AND SERVICES TAILOR-MADE TO EVERY PROJECT

### BETONBAU

We are a leading European manufacturer of technical buildings for public and industrial infrastructure.

We develop and manufacture prefabricated reinforced concrete buildings, fit them with modular components made in our own hardware workshop and install technologies in them depending on their use.

Our product portfolio includes both small compact transformer stations and large walk-in industrial buildings comprising many cells.

Our products come with comprehensive services, starting with the preparation of project documentation, continuing with the supply and assembly of the building and ending with maintenance and renovation during its use.

Since 2006, the BETONBAU company has been a part of the German-owned Schwenk Group, based in the German town of Ulm.

### FUTURE-ORIENTED PRODUCTS

By establishing the e<sup>4</sup>you company, BETONBAU has focused on the future trend of electric mobility.

We are preparing for the introduction of intelligent infrastructure for charging electric buses and other means of public transport.

### INDIVIDUAL SOLUTIONS

We have developed special compact stainless steel Gritec stations for international use, which comply not just with the specific requirements of the market but also with the individual requirements of customers.

### EXPERTISE

In our work, we use technologies and procedures from many disciplines, thus creating a comprehensive set of services that we provide to our customers.



BETONBAU GROUP

BETONBAU BBD GmbH  
BETONBAU S.R.O.



**BETONBAU**

TECHNICAL BUILDINGS

METALLBAU COMPONENTS

MAINTENANCE

THE BETONBAU BRAND

  
**GRITEC**

**e<sup>4</sup>you**

STAINLESS STEEL TRANSFORMER STATIONS

INFRASTRUCTURE FOR ELECTRIC BUS CHARGING

# ALMOST 60 YEARS OF EXPERIENCE WITH PREFABRICATED CONCRETE

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## FROM SIMPLE STRUCTURES TO LARGE TAILOR-MADE BUILDINGS

Our products meet the strictest requirements for the safety and quality of technical buildings. They are based on almost 60 years of practical experience and offer many benefits to our customers.





## BENEFITS OF BETONBAU SERVICES

### TAILOR-MADE PRODUCTS

In our production plants, we make technical buildings on more than 50 standard layouts. We offer a wide range of solutions to satisfy our customers. Both the technical buildings and their technological equipment are always based on our clients' specific requirements.

### JOINTLESS DESIGN

Each cell is made as one cast by the process of jointless bell casting. This manufacturing method gives the structure exceptional mechanical strength, tightness and a long lifetime.

### ECONOMY

- + The high quality of craftsmanship guarantees a long lifetime.
- + Many configuration options thanks to the modular system of our products.
- + Time savings thanks to our specialized consultancy and industrial know-how.

### COMPLIANCE WITH STANDARDS AND REGULATIONS

All of our technical buildings and their components (doors, lock and ventilation systems or overpressure reduction units) meet the requirements of applicable standards.



The jointless design of the reinforced concrete structures ensures a long lifetime and reliability.

# BETONBAU PLEDGE

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OUR WORD IS  
AS SOLID AS CONCRETE

## SPEED

We optimize construction and assembly procedures to get you connected as soon as possible.

## PRECISION

Time is our most precious asset and we take the same approach to the agreed deadlines.

## FLEXIBILITY

With us, you always have more options to choose from. Moreover, you can consult a specialist.

## QUALITY

We build for the future and have over 60 years of experience.







COOPERATION  
IS THE BASIS OF SUCCESS.

WE USE ALL OF OUR SKILLS  
TO CONNECT YOU  
TO THE NETWORK.





# CONCRETE AS A CONSTRUCTION MATERIAL

## HARD, TIGHT AND RELIABLE FOR CENTURIES

We manufacture our room cells using reinforced concrete in accordance with the standards of ČSN EN 13670: Execution of concrete structures and ČSN EN 206+A1: Concrete – Specification, properties, manufacturing and conformity. At the same time, we comply with the requirements for minimum water penetration through concrete in partially or completely embedded structures. The manufacturing process in our concrete plants is subject to both external and internal quality control. Compared to concrete production at a construction site, our prefabricated concrete retains all of its advantages. Therefore, we can also manufacture watertight concrete structures with lower structural thickness. This leads to savings on both your and our side.

In comparison with the recommendation of the WU\* directive, we use a higher quality concrete with a compressive strength of C35/45 and a substantially lower water-cement ratio. Thanks to jointless technology, we are able to ensure watertightness and reduce humidity transport with lower structural thicknesses and without the use of additional water insulation.

The watertightness of a structure is designed depending on the construction conditions (terrain, precipitation, accumulated and underground water or a possible flood risk) and your additional requirements. Our technicians provide consultancy in a way that is accessible to both specialists and ordinary clients as well as lay users. Using the examples of many reference structures, we will show you a solution for your construction, such as a transformer station, water tower or wastewater treatment plant. We will apply our experience from previous projects to your specific requirements.

\* DafStb Directive: "Waterproof Concrete Structures".  
German Committee for Structural Concrete. e.V., Berlin



# BETONBAU PRODUCTS

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WE PROVIDE TAILOR-MADE SOLUTIONS  
TO YOUR REQUIREMENTS



# SPHERES OF APPLICATION

OF OUR PRODUCTS IN VARIOUS INDUSTRIES



## ELECTRIC TECHNOLOGY

- Walk-in transformer stations
- Compact transformer stations with external service
- Transformer stations embedded in a slope
- Underground transformer stations
- Switching stations
- Diesel aggregates and cogeneration stations
- Compliance with the ČSN EN 62271-202 standard



## GAS INDUSTRY

- Pressure regulation stations
- Large measuring stations
- Compressor gas stations
- Gas filling stations – combined buildings
- Soundproofing for concrete room cells min. 47 dB
- Fire resistance EI90, up to EI120 on request



## WATER MANAGEMENT

- Water towers
- Wastewater treatment plants
- Retention tanks
- Filling stations
- Water measurement shafts
- Well and shaft entrance necks
- Service buildings
- Water treatment stations
- Pressure boosting facilities



## SPECIAL AND HIGH-CAPACITY BUILDINGS

- Multi-storey buildings
- Room cells can be extended to all sides
- Modular principle
- Turnkey design
- Variable execution
- Planning and consultancy
- Creation of project documentation
- Structural stability calculations



## COMMUNICATION AND DATA TECHNOLOGY

- Protection against burglary
- Fire resistance class EI90, up to EI120 on request
- Ventilation and air conditioning
- Technologies on customer request
- Project documentation
- Soundproofing min. 47 dB
- Facade on customer request



## RAILWAY TECHNOLOGY BUILDINGS

- Substations
- Telecommunications
- Relay houses
- Protection against burglary
- Fire resistance class EI90, up to EI120 on request
- Ventilation and air conditioning on customer request
- Project documentation
- Facade on customer request

# OVERVIEW OF PRODUCTS

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FOR VARIOUS USES



## COUNT ON OUR TOP-CLASS SERVICE

We will deliver a compact or walk-in transformer station built according to proven standards or tailor-made to your requirements. There is a concrete solution to each project.

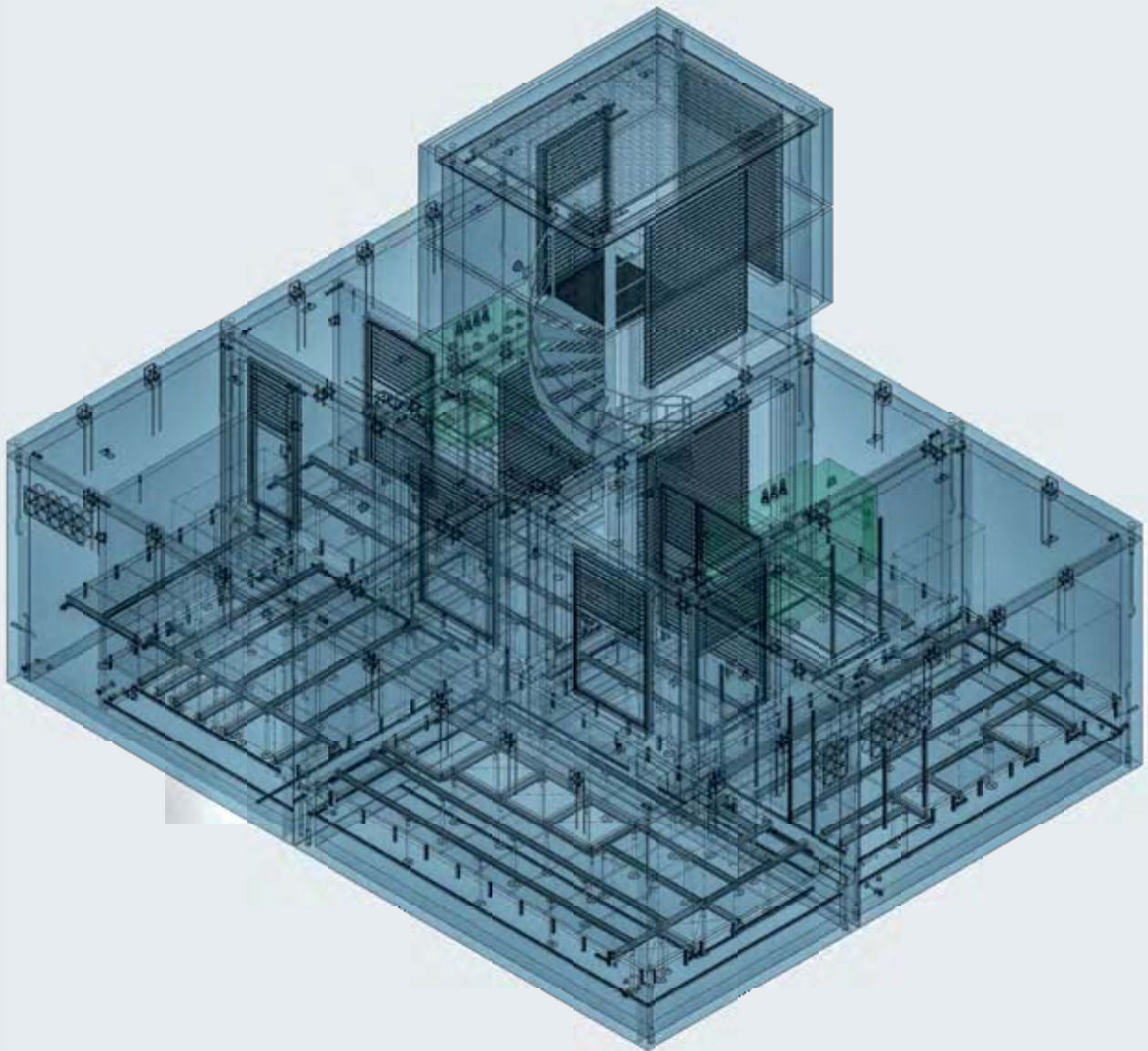




# WALK-IN STATION

## EXAMPLES FROM OUR PORTFOLIO

### UNDERGROUND TRANSFORMER STATION

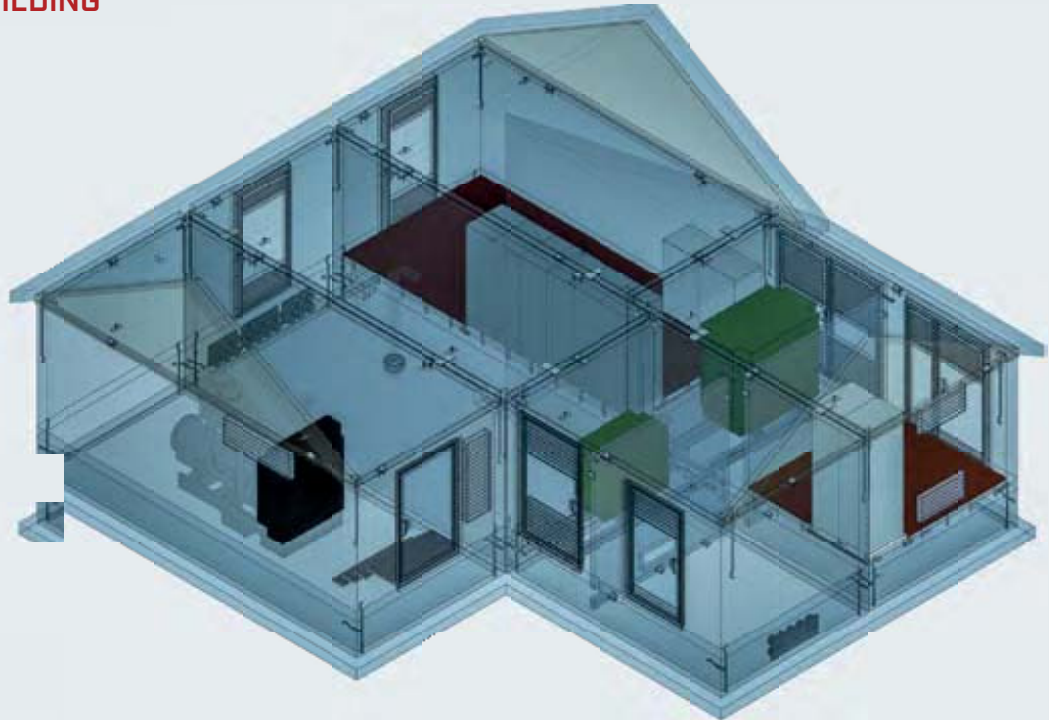


TAILOR-MADE PRODUCTS.  
THOUGHT OUT IN EVERY DETAIL  
OPTIMIZED FOR FAST ASSEMBLY

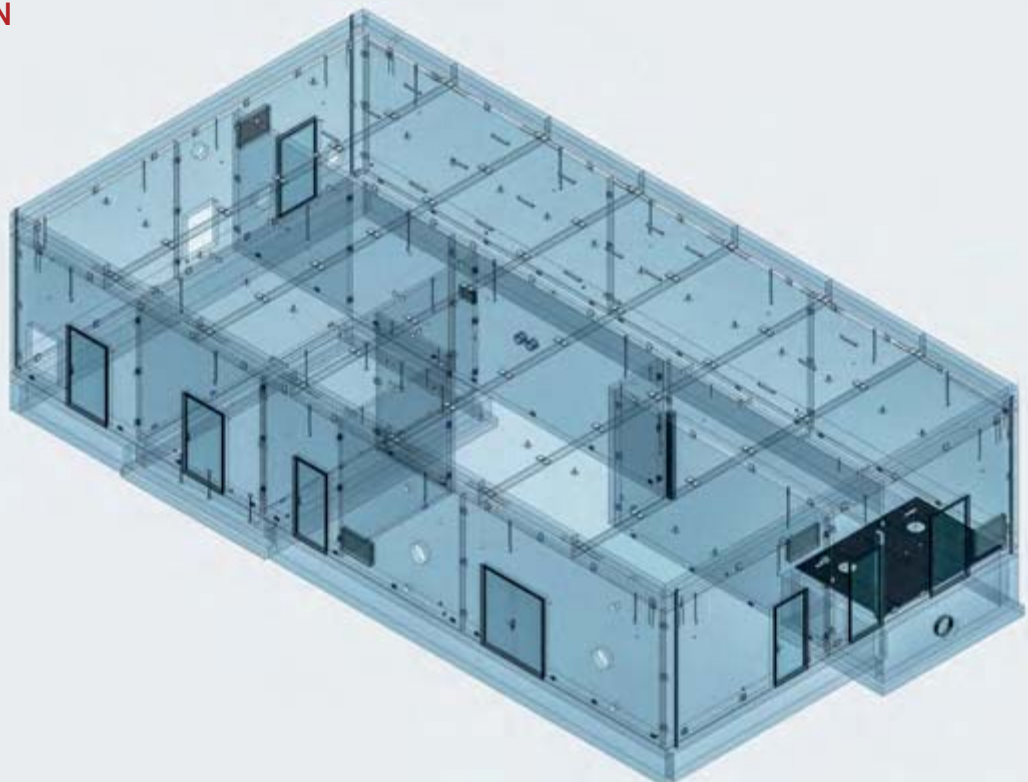
# WALK-IN STATION

## EXAMPLES FROM OUR PORTFOLIO

### COMBINED BUILDING



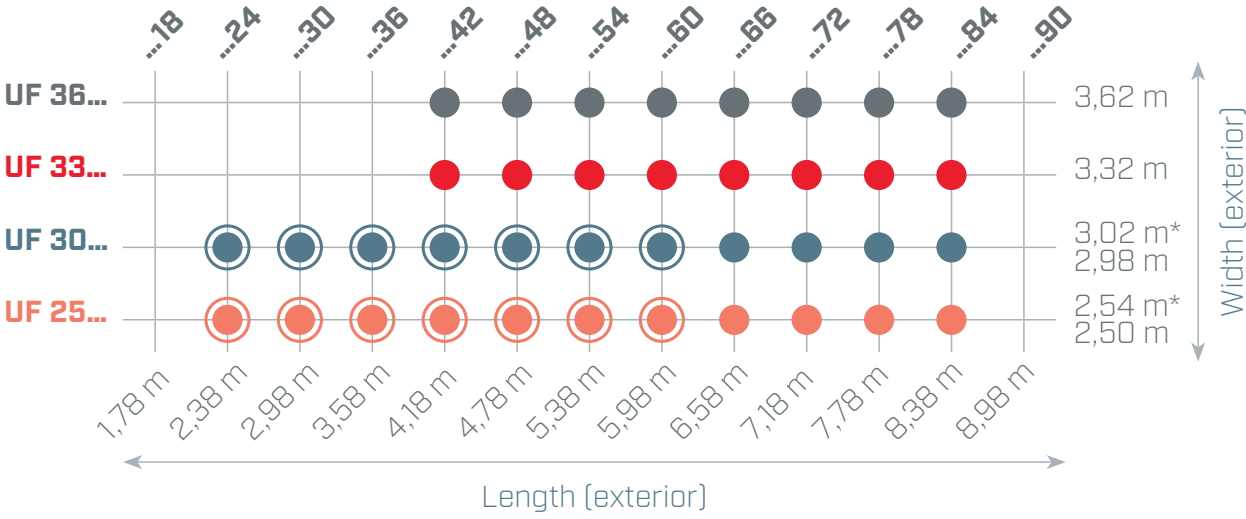
### PANEL STATION





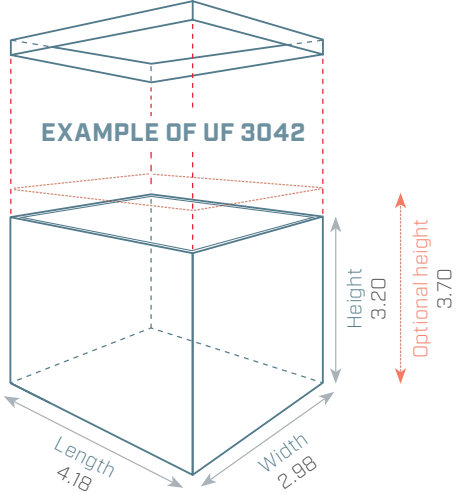
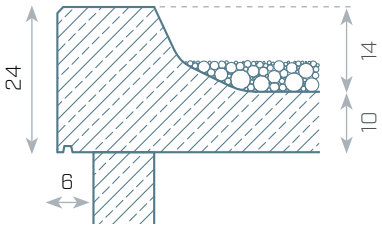
# WALK-IN STATION

Overview of standard room cells

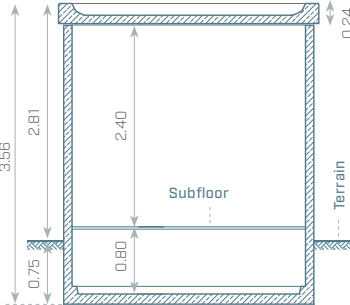


The table above shows the different sizes of construction corpuses and their combination options. Other dimensions available on request.

### EXAMPLE OF THE "DV" ROOF



### EXAMPLE CROSS-SECTION OF A STANDARD UF STATION

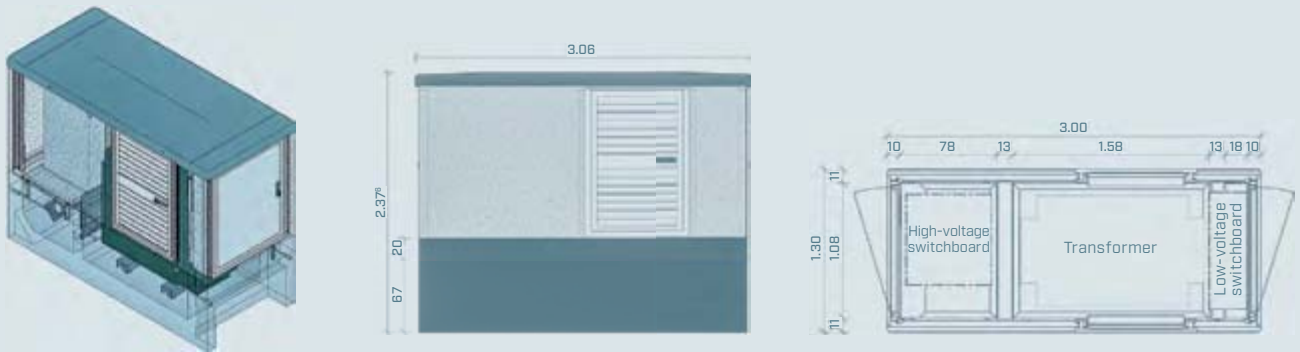


Note: change of system parameters is possible.

# COMPACT STATION

## EXAMPLES FROM OUR PORTFOLIO

### THREE-CHAMBER VARIANT



Example of UK 1100

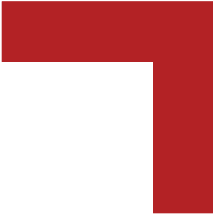
STATION TYPE	DIMENSIONS [L × W × H]
UK 1100	3.00 × 1.30 × 2.37 m
UK 1250-34	3.44 × 1.45 × 2.22 m

### THREE-CHAMBER VARIANT



Example of UK 2200-29H

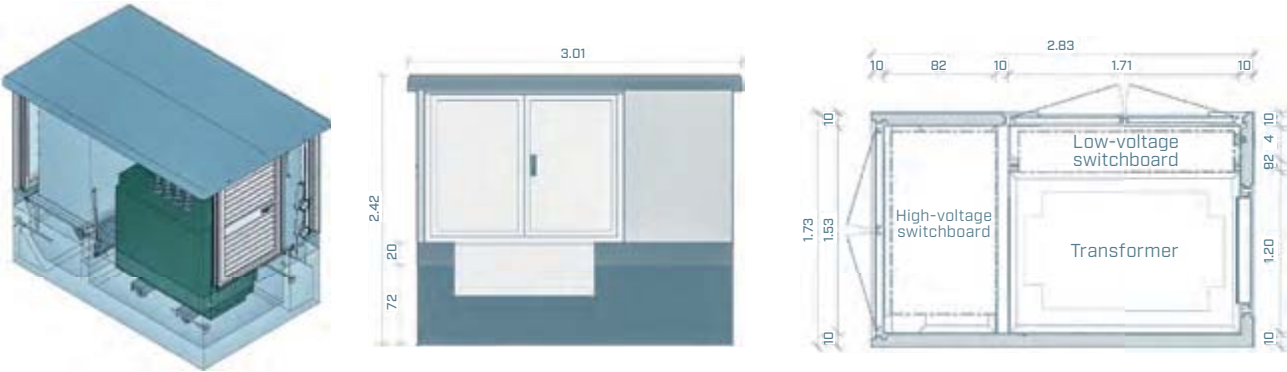
STATION TYPE	DIMENSIONS [L × W × H]
UK 1700-28	2.32 × 1.90 × 2.38 m
UK 2000-28	2.82 × 2.20 × 2.40 m
UK 2200-29H	2.99 × 2.40 × 2.56 m
UK 2600-35	3.55 × 2.80 × 2.58 m



# COMPACT STATION

## EXAMPLES FROM OUR PORTFOLIO

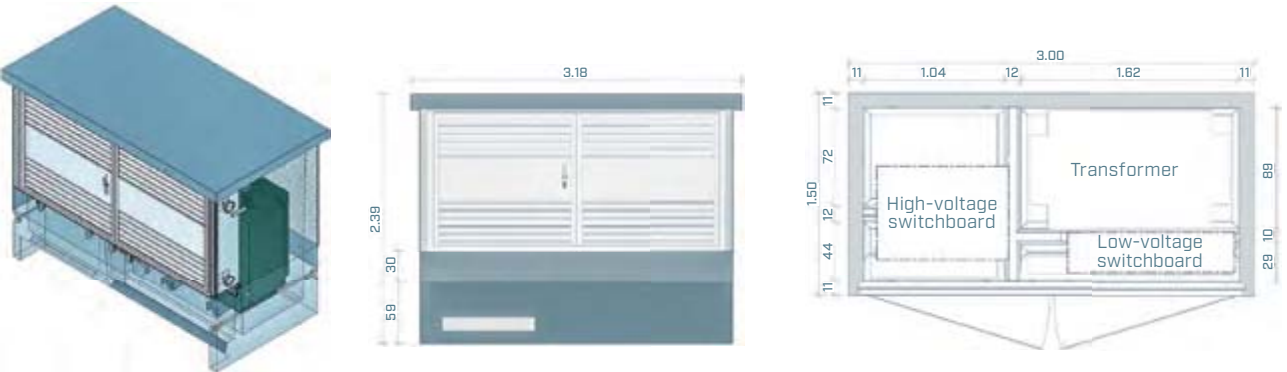
### SERVICEABLE FROM THREE SIDES



Example of UKL 2817

STATION TYPE	DIMENSIONS [L × W × H]
UKL 2817	2.83 × 1.73 × 2.41 m
UK 3119	3.12 × 1.90 × 2.38 m

### SERVICEABLE FROM ONE SIDE



Example of UK 3015

STATION TYPE	DIMENSIONS [L × W × H]
UK 3024	2.98 × 2.38 × 2.56 m
UK 3015	3.00 × 1.50 × 2.39 m
UK 2820	2.80 × 2.00 × 2.69 m
UK1700-23	2.32 × 1.90 × 2.38 m

# ASSOCIATED CONSTRUCTION

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## FINISHING CONSTRUCTION WORKS ON THE TRANSFORMER STATION

Construction is about team cooperation. During finishing works, you can rely on our team of plasterers, concreters, locksmiths and carpenters – experienced skilled workers with a sense for detail.



- + Interior paint: standard white or according to your wishes
- + Exterior plaster in various designs and according to your wishes
- + Floor systems
  - a flexible system made of aluminium profiles, adjustable zinc-coated steel supports and plywood with flame retardant surface, with a key-operated anti-lift latch
  - non-flammable concrete subfloor (reaction to fire class A)
- + System of cable glands cast-in already in the production plant; suitable for various applications



Our robust patented cable glands enable the passage of all standardized cables used in the energy industry.



# ELECTRICAL INSTALLATIONS IN A STATION

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## INTERIOR EQUIPMENT OF A STATION



Our work energizes us. We electrify your technical buildings and install all the necessary equipment.

- + ELECTRO TECHNOLOGIES
  - High- and low voltage switchboards
  - Transformers
  - Protection and control cabinets
  - Measurement boxes
  - Back-up power supply
  - Complete cabling
  - Earthing
  
- + ELECTRO INSTALLATIONS
  - Installation and construction of switchboards
  - Lighting, sockets
  - Mechanical ventilation, air conditioning, heating
  - Cable trays
  - Earthing, equipotential bonding
  - Exterior and interior lighting protection
  - Electric fire alarm system
  - Burglar alarm system
  - Installation of racks or cabinet switchboards
  - Connection of control circuits
  
- + ACCESSORIES
  - Fire extinguishing equipment
  - Emergency lighting
  - Signage (tables, diagrams)
  - Writing counter
  - Locking systems
  - Remote control



Our technicians will provide complete electrical equipment according to your requirements.



## WHEN METAL MEETS CONCRETE

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### OWN-PRODUCED DOORS AND VENTILATION COMPONENTS

Naturally, your building has to be accessible. Perhaps even from several places. Whether single wing, double-wing, standard or bespoke doors are required, we always focus on detail because we believe that a sense for detail opens the door to success. That is why we make all metal components, such as doors or ventilation components, ourselves.



- + Ventilation components and doors made of aluminium, a very strong and durable material, with anodised surface
- + Doors and ventilation components with heat and sound insulation available on request
- + Innovative entrance systems (card and fingerprint readers, electrical code locks)
- + Supply and assembly of all commercially available doors and ventilation components (steel, stainless steel, PVC)





COLOUR SURFACES  
ON REQUEST: COLOUR-  
ANODISED, VARNISHED  
OR POWDER- COATED  
WITH A RAL TONE  
OF YOUR CHOICE.



All doors and ventilation components are made to order in our own hardware workshop.

## DESIGN

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### OPTIMIZED FOR THE EYES



The appearance and integration of a technical building in the surrounding landscape can be achieved exactly according to your wishes.

This is especially important in:

- landscape character protection
- urban planning
- integration in green zones or leisure activity areas
- integration in residential areas and underground garages
- or in installations near roads in city neighbourhoods.

That's why we have many types of different materials and surface treatment technologies for you to choose from.

- + Stations embedded in a slope
- + Underground stations
- + Gable roofs with tiles or metal sheets, flat roofs with decorative gravel, green roofs
- + Decorative facades with face bricks or clinker strip tiles, natural stone or wood



It fits into the environment wonderfully, yet manages to attract interest. It is you who decides on the look of your technical building!



## COMPLIANCE WITH STANDARDS

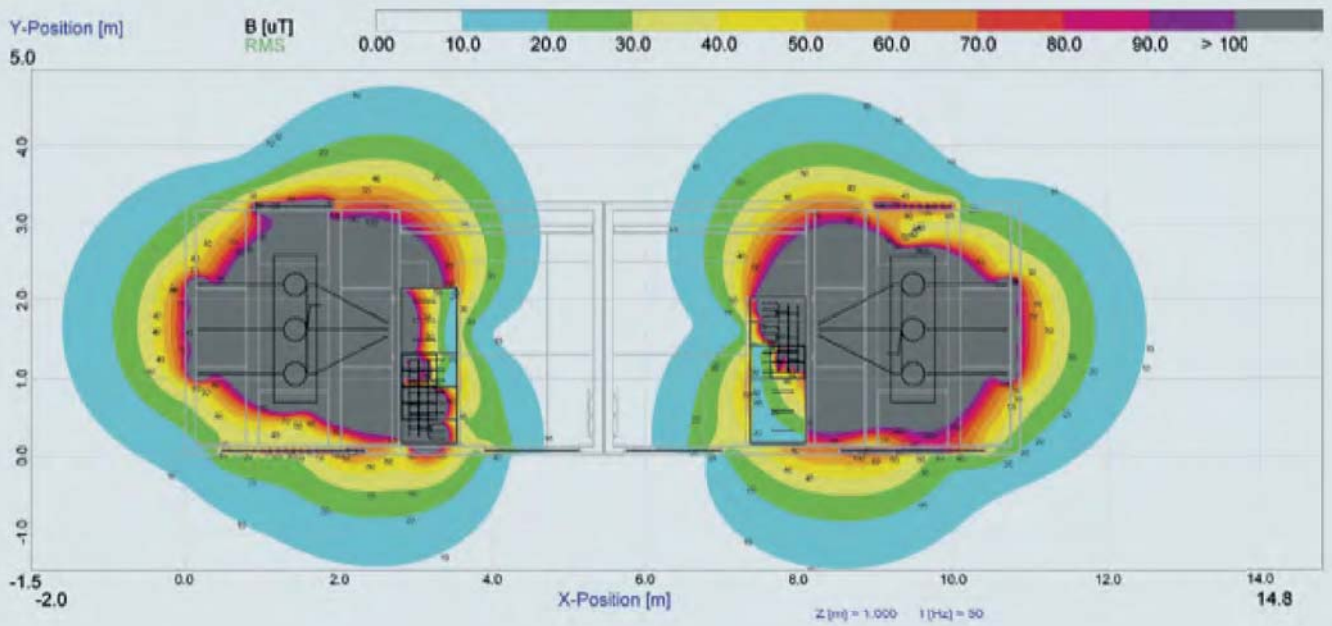
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In addition to injury prevention, compliance with standard requirements and tests is the basic factor for the long-term reliability and lifetime of your transformer station. That's why manufacturing in BETONBAU is subject to Czech, German and European standards, decrees and directives. Our certified quality management system guarantees compliance with all the required regulations.

### COMPLIANCE WITH THE REQUIREMENTS OF THE ČSN EN 62271-202 STANDARD

- + Minimum ingress protection IP 23 DH; on request IP 34 D or IP 44 D, pursuant to ČSN EN 60529
- + Protection against arc short-circuit pursuant to ČSN EN 62271-202
- + Test of cover warming and class pursuant to ČSN EN 62271-202
- + Protection against electromagnetic fields (EMC) pursuant to the government regulation No. 291/2015 Coll., and ČSN EN 50499
- + Declaration of conformity, construction technology certificates and product certificates available on request



CERTIFIED PRODUCTS  
COMPLYING WITH THE  
REQUIREMENTS OF  
STANDARDS ARE  
A MATTER OF COURSE  
FOR US.



A test of electromagnetic compatibility [EMC].



# PROTECTION OF PERSONS

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## OPERATION AND PUBLIC SAFETY



An arc short circuit resistance test I.

If your station is located in a public space, it is necessary to ensure maximum protection of persons and safety for both pedestrians and your staff.

At BETONBAU, we have developed a special protection concept that considers the protection of persons from potential risks and complies with standard requirements already in the production plant.

### SOME SAFETY REQUIREMENTS:

- + Protection against arc short circuit
- + Ensuring ingress protection (pursuant to ČSN EN 60529)
- + Electromagnetic compatibility (EMC)





A station in a public space providing electricity for car charging.



An arc short circuit resistance test II.

PROTECTION AGAINST BURGLARY IS ALSO NECESSARY. UNAUTHORIZED PERSONS ENTERING THE STATION CAN CAUSE EXTENSIVE DAMAGE TO BOTH THEIR HEALTH AND OTHERS' PROPERTY.

# NOISE PROTECTION

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## ENSURING SILENCE EVEN IN RESIDENTIAL AREAS



Noise. A sensitive topic subject to strict hygienic limits imposed by government regulations. We have developed our own solutions, which mean you will enjoy undisturbed sleep.

- + Soundproofing of walls: depending on their thickness, they achieve from 47 dB (thickness 10cm) to 58 dB (thickness 20 cm). Another measure is wall doubling or interior panelling with perforated sheets and sound insulation.
- + Doors and gates: we offer single-wing doors with the attenuation of 18 to 40 dB. In non-standard products, we can achieve up to 55 dB in single-wing doors and up to 52 dB in double-wing doors. Higher requirements can only be met by using a double door in a double partition: up to 66 dB.
- + Ventilation components: measures range from ventilation components with adequate soundproofed sheet ducts – installed under the roof or on the walls – to concrete ducts with attenuating panels.
- + Concrete ducts with built-in attenuating panels; they can be installed on a room cell as a roof component or separated by a thick subfloor or a prefab in front of the exterior wall.
- + Noise protection by soil: this very simple insulation method involves earth mounds, partial or complete embedding in a slope and location below ground as an underground station.





COMPLIANCE WITH  
THE STRICTEST LIMITS  
IN PLACES SUCH AS  
KINDERGARTENS IS AS  
EASY AS PIE FOR US.



A soundproofed sheet duct.

# SAFETY UNLOCKS THE DOOR TO SUCCESS

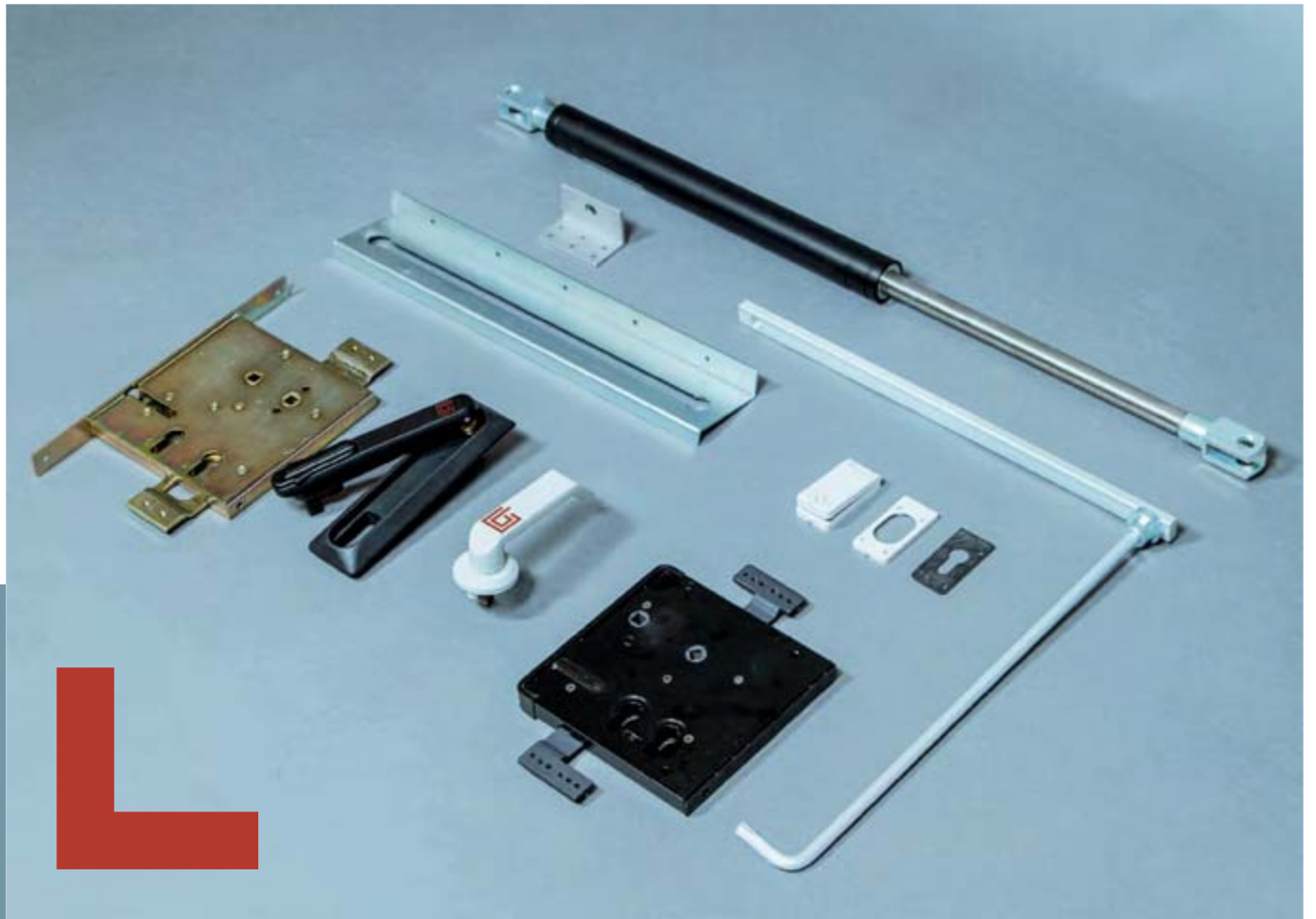
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There is no way someone will just break through a 10-cm thick reinforced concrete wall without getting noticed. This is why we build our doors and ventilation components in a way that makes break-ins as difficult as possible.

On request, we will provide your technical building with the following:

- + Protection against burglary thanks to special aluminium doors and ventilation components
- + Doors with inner hinges in the RC2 or RC3 safety class pursuant to ČSN EN 1627
- + A mechanical or electronic three-direction lock with the emergency exit function pursuant to ČSN EN 179
- + A lock cylinder, ES2 class pursuant to DIN 18257: 2015



ALL DOORS AND  
VENTILATION  
COMPONENTS ARE  
MADE TO ORDER  
IN OUR HARDWARE  
WORKSHOP.



# ALL FROM ONE MANUFACTURER

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## DESIGN, MANUFACTURING AND ASSEMBLY



All from one manufacturer. We can assist you with the management and coordination of the entire project. Thanks to our long-term experience, we can help with the whole construction process. We will speed your project up.

### SERVICE THAT WILL MOVE YOU FORWARD

- + Initial consultation to choose the best possible solution
- + Project documentation for ideal background materials
- + Certifications to help you stay on the safe side
- + Project coordination to make everything run according to plan
- + Professional assembly with emphasis on quality and safety
- + Renovation that will give your building a new look
- + Maintenance for long life and reliability

A large white industrial unit, possibly a generator or power source, is being lifted by a crane. The unit is mounted on a red trailer. The crane's boom and cables are visible, extending upwards. The background is a clear blue sky. The image is overlaid with a semi-transparent blue rectangle containing text. On the left side, there are red and blue geometric shapes.

GOOD ADVICE  
IS WORTH MILLIONS

TAILOR-MADE TO EVERY PROJECT

# BETONBAU GROUP

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BOCKENEM

SCHKEUDITZ

DE

PRAGUE

WAGHÄUSEL

KÖSCHING

CZ



KÖSCHING



BOCKENEM



# ALMOST 60 YEARS OF EXPERIENCE WITH CONCRETE

The BETONBAU company was founded in 1963 in Waghäusel, Germany. In time, four production plants in Germany and the Czech Republic were added. In 1993, a subsidiary plant with its own legal arrangement was set up in Prague.

The BETONBAU group employs over 750 workers. In its state-of-the-art production plants, it manufactures over 8,000 room cells every year.



WAGHÄUSEL



SCHKEUDITZ



PRAGUE



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