

JUMBO BLOCK®

Digital Planning & Infrastructure Suite

JUMBO BLOCK® Engineering Tools

JUMBO BLOCK Hydro JUMBO BLOCK Plan JUMBO BLOCK Budget

JUMBO BLOCK® ENGINEERING TOOLS

JUMBO BLOCK® Budget

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Budget tool for an initial cost and budget overview of modular JUMBO BLOCK® installations based on imported planning data.

Hydro Plan **Budget**

1. Import / Export

Import from Plan **Export Budget** Import from Budget

No file imported yet.

2. Project and Reference Data

Project name	Location
<input type="text"/>	<input type="text"/>
Postal code	Date
<input type="text"/>	<input type="text"/>
Source	
<input type="text"/>	
Return period	Duration
<input type="text"/>	<input type="text"/>

The **JUMBO BLOCK® Digital Planning & Infrastructure Suite** combines planning, simulation and infrastructure monitoring in an integrated digital toolset.

The digital tools support planners, municipalities and infrastructure operators in various phases of a project – from the initial concept idea to the operation of a plant.

They reduce planning uncertainty and create a reliable basis for decisions regarding technical, economic and infrastructural measures.

The suite was designed to meet both the **physical requirements of modern infrastructure planning** and the **digital requirements for traceability, documentation and system security** .

The system architecture is thus aligned with current **European frameworks for critical infrastructures** , in particular:

- **KRITIS** – Protection of critical infrastructures
- **NIS-2 Directive** – Cybersecurity and Traceability of Digital Systems
- **CRA (Cyber Resilience Act)** – Security requirements for digital products and systems

The combination of planning tools and digital monitoring enables **traceable documentation of infrastructure measures** and thus supports modern requirements for **resilient and verifiable infrastructure** .

JUMBO BLOCK® Plan

The **JUMBO BLOCK® Plan Tool** enables the geometric and structural pre-planning of modular JUMBO BLOCK® systems.

With just a few inputs, you can calculate, among other things:

- Number of modules required
- Retention volume of the system
- Required components (base plates, side plates, cover plates)
- Material requirements
- Plant layout

The tool serves as a basis for an **initial technical project assessment** .

JUMBO BLOCK® Hydro

The **JUMBO BLOCK® Hydro Tool** supports the **hydrological pre-planning** of rain events and retention systems.

Based on:

- Rainfall intensities
- catchment areas
- Return times

can be calculated:

- required retention volume
- Number of JUMBO BLOCK® modules required
- potential plant capacities.

The Hydro Tool thus complements geometric planning with **hydrological dimensioning** .

JUMBO BLOCK® Dashboard

The **JUMBO BLOCK® Dashboard** forms the digital layer of the infrastructure.

Connected **IoT sensors** can be used to monitor, for example:

- Water levels
- System states
- Operating data of the plant

The data can also be documented via **verifiable log systems and distributed ledger technology (IOTA)** .

This dashboard enables **transparent and traceable infrastructure monitoring** .

One system – four tools

Together, the three digital tools provide comprehensive support for modern infrastructure projects.

phase	Tool
Concept & Preliminary Planning	JUMBO BLOCK® Plan
Hydrological dimensioning	JUMBO BLOCK® Hydro
Economic considerations	JUMBO BLOCK® Budget
Operation & Monitoring	JUMBO BLOCK® Dashboard

Together they form the **digital planning and operational level for JUMBO BLOCK® retention infrastructure** .

System principle of the JUMBO BLOCK® system

The JUMBO BLOCK® system is a modular underground storage system for **rainwater retention under traffic areas** .

The system consists of standardized **JUMBO BLOCK® hollow modules** , which are installed below the surface and supplemented by **base plates, side plates and cover plates** .

The modules are installed **block by block on one level** and together form a large-volume underground storage reservoir.

The system can be used, for example, in:

- streets
- Parking areas
- places
- industrial areas

Depending on the system design, the stored rainwater can be:

- **temporarily retained (retention facility)**
- **controlled seepage (infiltration system)**
- **be derived with a time delay**

Thanks to its modular design, the size of a system can be **scaled virtually without limit** , as it depends solely on the **number of modules used** .

User manual

JUMBO BLOCK® Budget

Purpose of the Budget Tool

JUMBO BLOCK® Budget is a digital tool for an initial rough budget and cost estimate of modular JUMBO BLOCK® systems.

The tool does not rely on manual quantity input, but instead adopts the technically relevant planning data from **JUMBO BLOCK® Plan** . This planning data can, in turn, be based on a preliminary hydrological assessment from **JUMBO BLOCK® Hydro** .

This places JUMBO BLOCK® Budget at the end of the digital pre-planning chain:

1. **Hydro** calculates the hydrological demand.
2. **Plan** translates this need into a technical system and component logic.
3. **Budget** translates the planning data into a rough economic analysis.

This tool does not replace a tender, a binding offer, or a project-specific cost calculation. It serves as an early basis for decision-making and comparison.

1. Import / Export

Import/Export section is the central interface of the Budget Tool.

Three functions are available:

- **Import from plan**
- **Export Budget**
- **Import from budget**

Import from plan

The "**Import from Plan**" function imports a JSON file previously created in **JUMBO BLOCK® Plan** .

This file contains the technical planning data for the system, in particular:

- **Project data**
- **Reference data from Hydro**
- **Number of modules**
- **Number of floor panels**
- **Number of side panels**
- **Number of cover plates**
- **Individual volumes of the panel components**
- **Slab concrete class**
- **Total joint length**
- **Total joint length including reserve**
- **Net storage volume**
- **Gross soil extraction**

After successful import, this data will be automatically incorporated into the budget calculation.

Export Budget

The current budget status is saved as a JSON file via "**Export Budget**" .

The export contains:

- **imported planning data**
- **Price parameters**
- **Concrete factors**
- **calculated budget items**
- **Overall result**
- **Export timestamp**

This allows a budget status to be documented, archived, or reloaded later.

Import from budget

Using "**Import from Budget**," a previously saved budget file can be reloaded. This allows existing budget balances to be reviewed, shared, or re-evaluated at a later time.

2. Project and reference data

After the import, the most important project data is displayed in the **Project and Reference Data section** .

The following are depicted:

- **Project name**
- **Location**
- **Postcode**
- **Date**
- **Source of the rainfall value**
- **Annuality**
- **Length of time**
- **Rainfall**
- **effective area**
- **Retention volume from hydro**

This information serves to ensure the traceability of the calculations. It shows the hydrological basis on which the technical planning and the subsequent budget overview are founded.

The fields are intentionally designed as non-editable reference fields. Changes to project or planning data are made in the upstream tools **Hydro** and **Plan** .

3. Price-relevant planning data

In this section, **JUMBO BLOCK® Budget** displays the technical quantities from **JUMBO BLOCK® Plan** that are relevant for budget calculation .

This includes:

- **Number of JUMBO BLOCK® modules**
- **Number of floor panels**
- **Number of side panels**
- **Number of cover plates**
- **Individual volume of the base plate**
- **Individual volume of the side panel**
- **Individual volume of the cover plate**
- **Slab concrete class**
- **Total joint length**
- **Total joint length including reserve**

These values form the basis for the position-specific budget calculation.

Project-specific additional components, special installation situations, earthworks, transport, assembly, permit services or site-related ancillary costs are not included in this rough online assessment and must be considered separately.

4. Budget items

"**Budget Items**" section shows the actual cost overview.

The information is presented in tabular form with the following columns:

- **position**
- **Description**
- **Crowd**
- **Unit**
- **Unit price**
- **Position price**

The tool is currently calculating the following positions:

1. **JUMBO BLOCK® Module**
2. **Base plate C40/50**
3. **Base plate C80/95**
4. **Side panel C40/50**
5. **Side panel C80/95**
6. **Cover plate C40/50**
7. **Cover plate C80/95**
8. **SABA joint sealant**

Depending on the selected concrete slab class, only the active slab positions are fully calculated. Inactive concrete class positions appear with reduced costs or no cost estimate.

5. Pricing

The budget calculation is based on stored price and factor models.

Among other things, the following are taken into account:

- **Unit prices of the JUMBO BLOCK® modules**
- **Concrete prices per m³**
- **Concrete class-dependent factors**
- **Joint sealing per meter**

The calculation is automated based on the imported planning data and ensures a consistent and comprehensible cost overview.

6. Budget overview

The budget overview summarizes the calculated items.

The following are depicted:

- **Module position**
- **Plate positions**
- **Joint sealing**
- **Total budget**

The budget overview is presented as a net view:

- **net**
- **ex works**
- **without installation**

This is therefore a rough budget and cost overview, not a binding offer.

This overview is particularly suitable for:

- **early project evaluations**
- **internal decision-making bases**
- **Variant comparisons**
- **Budget discussions with municipalities or project sponsors**
- **Preparation of further planning steps**

7. Print / PDF / Inquiry

Print / PDF / Inquiry section, the current budget overview can be documented and shared.

Available:

- **Print function**
- **Creating PDFs via the browser's print function**
- **Resetting budget data**

The imported project, plan, and budget data will appear in the print or PDF view. For questions or project-specific budget requests, the plan can be sent to the following address: mail@jumboblock.de

Important note regarding classification

JUMBO BLOCK® Budget provides an initial, rough economic assessment based on imported planning data.

The calculation does not replace:

- a binding offer
- a tender
- a project-specific cost calculation
- a construction management calculation
- an audit of transport, assembly or construction site costs
- a tax or procurement law assessment

The values shown are intended for the early project phase and structured decision-making.

Summary

JUMBO BLOCK® Budget complements **JUMBO BLOCK® Hydro** and **JUMBO BLOCK® Plan** with an economic perspective.

Hydro provides the hydrological basis. Plan uses this to generate the technical system and component logic. Budget compiles this data into an initial cost and budget overview.

This creates a seamless digital **workflow** :

- **Hydro** → hydrological assessment
- **Plan** → Technical system design
- **Budget** → economic evaluation
- **Dashboard** (optional) → Operation and Monitoring

JUMBO BLOCK® Budget thus creates a reliable basis for early investment decisions, comparisons of options and further project development.

JUMBO BLOCK
ZANNI GROUP
BrauhoF 12
44866 Bochum

Phone :+49 (0) 2327 4178 191
Fax: +49 (0) 2327 4178 192
Email: mail@jumboblock.de
Homepage: jumboblock.app

Imprint
<https://zanni.group/imprint>