

JUMBO BLOCK ENGINEERING SUITE

JUMBO BLOCK Budget

User Manual · Version 9.1.0

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Table of Contents

1. Overview
2. Getting Started
3. Import / Export (project.dbm)
4. Project and Reference Data
5. Price-Relevant Planning Data
6. Pricing Logic and Concrete Class Factor
7. Budget Line Items
8. Budget Summary
9. Print / PDF / Inquiry
10. Reset Budget
11. Language (German/English)
12. Data Integrity (SHA-256)
13. Info Buttons (Contextual Help)
14. Limitations, Notes and Best Practices
15. Quick Reference of Icons and Buttons

1. Overview

JUMBO BLOCK Budget is the costing tool of the JUMBO BLOCK Engineering Suite. It takes over an installation layout produced in PLAN (module count, floor, side and cover plates, joint lengths) and calculates a rough, line-item cost overview from it, based on fixed built-in price tables.

BUDGET does not capture any planning data itself — all quantities (modules, plate counts, plate dimensions, joint lengths) are taken exclusively from an imported project.dbm. There are no manual input fields for quantities; the user's only action is importing the appropriate file.

The program runs entirely locally in the browser as a single HTML file. There is no cloud connection, no server, and no user account. Results are net factory prices excluding installation, not a binding cost commitment.

BUDGET is one of several standalone tools in the suite (including HYDRO, PLAN, STATIC, TEMP, Project). All tools can share a common project file (project.dbm) when needed.

2. Getting Started

When budget.html is opened for the first time, the budget line-item table is empty and the notice “Please import a dbm file first” is shown. No calculation takes place before a project.dbm containing planning data has been read in.

The typical workflow: determine and export the retention volume in HYDRO, import it into PLAN and define the installation layout, export again from PLAN as project.dbm, then import that file into BUDGET. BUDGET then automatically calculates the complete cost overview.

There is no persistent storage in the browser. The current state exists only in the memory of the open page until it is deliberately saved as a project.dbm file via “Export” (chapter 3).

3. Import / Export (project.dbm)

The project.dbm is the suite's shared data format. BUDGET can read any project.dbm that contains planning data — typically a file exported from PLAN, but equally a file that additionally already contains STATIC results, since BUDGET automatically falls back to the corresponding STATIC fields when PLAN fields are missing.

“Import” opens the file selection dialog and checks the file. If module or plate counts are entirely missing from the file, BUDGET attempts, as a fallback, to reconstruct the module raster and the default plate counts (side plates = $2 \times \text{raster length} + 2 \times \text{raster width}$) itself from the target volume or installation size. This makes import robust even with incomplete or older data states, although the displayed figures are then approximate.

“Export” calculates an updated SHA-256 hash over the entire stored dataset and downloads the file named YYYYMMDD_HHMMSS_project.dbm. Since the project.dbm is a shared format used by several suite tools, BUDGET writes only its own fields and leaves fields already present from other tools unchanged.

The hash status notice and the import status notice each show the current processing state: no file imported yet, project.dbm imported successfully, file invalid or unprocessable, or project.dbm exported successfully.

4. Project and Reference Data

Shows project name and location, plus all hydrological reference values from HYDRO (postal code, date, source, return period, duration, rainfall depth, effective area, retention volume) as read-only fields, provided they are present in the imported file.

All fields in this section are purely documentary and serve to trace the cost derivation in the report. They cannot be changed in BUDGET; changes are made exclusively in HYDRO or PLAN. In particular, the retention volume from HYDRO has no calculation effect of its own in BUDGET — the actual quantity basis for cost calculation is always the module and plate count from PLAN (chapter 5).

5. Price-Relevant Planning Data

Shows the quantities from PLAN that actually drive the cost calculation: number of modules, floor, side and cover plates, the single volume of each plate type, the selected plate concrete class, and the total joint length (without and with 15% reserve).

Two fixed notices supplement this section: project-dependent additional components (e.g. special components, site setup, transport, installation) are not included and are considered separately. In addition, a pricing note states that the given prices refer to structurally designed JUMBO BLOCK® precast components with a 2.50 × 2.50 m (6.25 m²) footprint; commercially available precast plates are usually significantly smaller (typically up to about 4 m²) and manufactured to a standard specification, so a direct price comparison is only meaningful to a limited extent.

6. Pricing Logic and Concrete Class Factor

BUDGET uses four fixed built-in price sources:

- Module price: fixed unit price of €3,598.23 per JUMBO BLOCK module (concrete class C40/50), regardless of thickness.
- Floor/cover plate price: a price tier by thickness (10/12/15/20/25/30 cm), with an assigned load class from “overburden only” to “F900”.
- Side plate price: a separate price tier by thickness (10/12/15/20/25/30 cm), load class always “bearing/shear”.
- SABA joint sealing: a fixed price per metre (€6.42/m).

If the actual plate thickness from PLAN does not exactly match a tier, BUDGET automatically selects the nearest stored thickness (smallest absolute difference) and takes over its price and load class.

A concrete class factor is applied to the resulting base price (concrete class C40/50): factor 1.00 for C40/50, factor 3.50 for C80/95 — depending on the plate concrete class selected in PLAN:

Plate price per unit = base price of the nearest thickness tier × concrete class factor

The module price itself is unaffected by this factor, since the JUMBO BLOCK module is always manufactured in C40/50 regardless of the selected plate concrete class.

7. Budget Line Items

The table lists five items: JUMBO BLOCK module, floor plate, side plate, cover plate, and SABA joint sealing. For each item, description (including the actual concrete class), size/dimensions, quantity, unit, single weight, item weight, unit price and total item price are shown.

Item total price = quantity × unit price

A plate item with thickness 0 (i.e. that plate was fully disabled in PLAN) is shown as inactive, with quantity 0 and price 0, but remains visible in the table. The joint sealing item always uses the total joint length including the 15% reserve from PLAN, not the length without reserve.

8. Budget Summary

Summarises the item prices into four categories: module item, plate items (floor, side and cover plate combined), joint sealing, and total budget:

Total budget = module item + plate items + joint sealing

An assessment text below distinguishes two cases: if a PLAN file was imported directly, a general notice appears stating that the budget summary shows a rough, line-item cost view based on the imported planning data. If a previously exported BUDGET state was loaded instead, a notice appears stating that the saved budget state is shown with the price parameters it contains.

9. Print / PDF / Inquiry

The “Print / PDF” button opens a standalone, cleanly formatted report in a new window (bilingual, according to the current interface language), with project and reference data, all budget line items, the budget summary, and document information including hash values.

Below the print button is a note to send the budget inquiry to mail@jumboblock.de; the imported project, plan and budget data appears in the print/PDF view.

10. Reset Budget

The “Reset budget” button clears all imported fields and the budget line-item table, resets the import and hash status to their initial state, and scrolls to the top of the page. Unlike in PLAN, the page is not reloaded. A previously imported or exported data state is not lost as a result, provided it was saved as a file.

11. Language (German/English)

Language switching is handled via the suite's global menu (menue.js) above the tool. BUDGET fully switches all labels, notices, info content and the print report between German and English without altering the loaded data.

12. Data Integrity (SHA-256)

Every exported project.dbm file contains a SHA-256 hash over the entire sorted dataset (excluding the hash fields themselves) — the same procedure as in HYDRO and PLAN. On import, this hash is checked automatically; the hash status notice shows the current verification state (clean and valid, or modified/not reproducible with a detected hash mismatch).

13. Info Buttons (Contextual Help)

Nearly every displayed field has a small **i** button next to it. Clicking it opens an overlay window with a precise technical explanation of that specific field — including where the value comes from, whether it has a calculation effect within BUDGET itself, and in which other tool it can be changed if needed.

The overlay can be closed by clicking outside the window, via the close button, or with the Escape key.

14. Limitations, Notes and Best Practices

- BUDGET provides a rough, line-item cost view based on fixed built-in price tables — not a binding cost commitment and not a quotation.
- All prices are net factory prices excluding installation; project-dependent additional components such as site setup, transport, installation, or special components are not included.
- A direct price comparison with commercially available, non-structurally-designed precast plates is only meaningfully valid to a limited extent, since these are usually significantly smaller and manufactured to a standard specification.
- BUDGET does not capture its own quantities: any change to module or plate count, plate thickness, or concrete class must be made in PLAN and re-exported from there as project.dbm, then re-imported into BUDGET.
- If module or plate counts are entirely missing from the imported file, BUDGET reconstructs them approximately from target volume or installation size — the displayed quantities are then approximate values, not an exact PLAN result.
- Without persistent browser storage, imported data is lost when the page is closed or reloaded unless an export has been made.

15. Quick Reference of Icons and Buttons

Icon / Button	Meaning
i Info	Opens the technical explanation for the respective field
Import	Reads in a project.dbm file (from PLAN, STATIC or BUDGET) and checks its hash
Export	Saves the current state as a project.dbm file and recalculates the hash
Print / PDF	Opens the complete budget report in a new window
Reset budget	Clears all imported fields and the budget line-item table

Icon / Button	Meaning
 Hash status	Current SHA-256 verification status of the project.dbm