

BEYOND CALCULATION

User Guide



BEYONDIT GmbH

Schauenburgerstr. 116
24118 Kiel
Germany
+ 49 431 3630 3700
hello@beyondit.gmbh

Table of Contents

About BEYOND Calculation

Setup

- Assign User Permission Set

- Setup Beyond Calculation

 - Setup Calculation Types

 - Create Calculation Number Series

 - Create Calculation Schedule Template

 - Create Postcalculation Number Series

 - Setup Default Item Number for Calculation Lines

Features

- Create Precalculation

- Create Sales Quote from Precalculation

About BEYOND Calculation

About this Extension

BEYOND Calculation is an extension for Microsoft Dynamics 365 Business Central.

It is developed by:

BEYONDIT GmbH

Schauenburgerstraße 116

24118 Kiel

Germany

hello@beyondit.gmbh

+49 431 3630 3700

BEYOND Calculation enables you to quickly and easily create a calculation of machines/items and corresponding configurations.

Use **BEYOND Calculation** to quickly capture the requirements of your customers when configuring a machine. Add attachments, items, costs, services, texts, used machines (trade-in) and other items to the calculation. Display a live preview of the document with all elements of the precalculation. Send the document to the customer or ask your supervisor to approve the precalculation first.

The latest version of this documentation can be found at the following link: [BEYOND Calculation Documentation](#).

The examples described in this documentation represent only a part of the possibilities that the BEYOND Calculation solution offers you.

If you have a specific case that you would like to map via the solution, please feel free to contact us.

NOTE

No dependencies on or to other apps

No dependent applications are required to use BEYOND Calculation, i.e. you do not need to install any additional applications.

Version	Date	Author	Comment
1.0	05.03.2024	Jannic Weidel	Initial Version of the Documentation
Access		public	

[Next Chapter](#)

Assign User Permissions

The following description shows how to assign user permissions for the **BEYOND Calculation** extension. The permission sets provided are:

Permission Set	Description
BYD CC Reader	This permission set enables the use of the Beyond Calculation extension.
BYD CC User	This permission set enables the use of the Beyond Calculation extension at user level. In this permission set, the setup is excluded, i.e. the user has access to the functions, but not to the setup of the app.
BYD CC All	This permission set gives the assigned user administrative access to the Beyond Calculation extension and the associated setup page.

To assign the permission set for **Beyond Calculation** to a user, proceed as follows:

1. Open the search function from the role center (**ALT+Q**).
2. Search for **Permission Sets** and click on the appropriate search result.
3. The **Permission Sets** page is displayed.
4. Select one of the above permission sets from the list.
5. Click **Related > Permissions > Permission Set by User** in the menu bar.

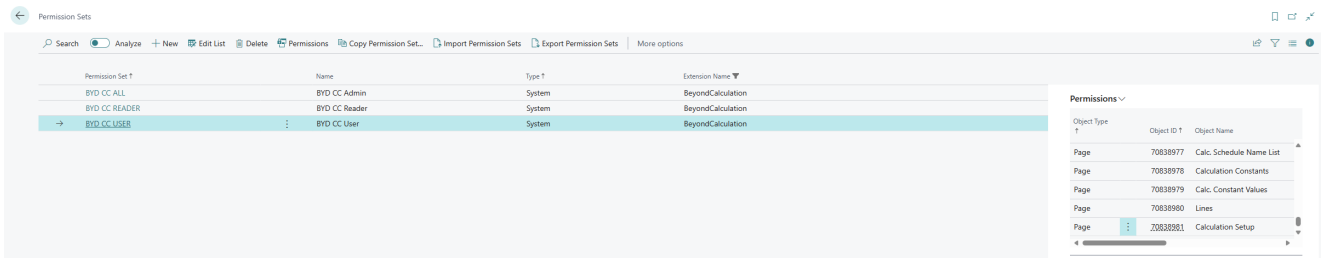


Figure: Permission Sets for BEYOND Calculation

6. The **Permission Set by User** page is displayed.
7. Show the filter area (**SHIFT+F3**) and pick **Extension Name** and the value **BeyondCalculation** as filter criteria.
8. The list is filtered to the permission sets of **BeyondCalculation**.
9. Select the check box on the right side of the page for the user or users to whom you want to assign the permission set.

You have assigned a permission set for **BEYOND Calculation** to a user. Note that users with the **SUPER** permission set have all rights, i.e. you do not need to give this user any additional rights.

Setup Beyond Calculation

This chapter describes how to set up Beyond Calculation. The setup of Beyond Calculation is divided into the following sections:

- [Setup Calculation Types](#)
- [Create Calculation Number Series](#)
- [Create Calculation Schedule Template](#)
- [Create Postcalculation Number Series](#)
- [Setup Default Item Number for Calculation Lines](#)


Setup Calculation Types

This section describes how to set up and create a calculation type. You can specify a calculation type for individual items in your calculation. You or other users can use the calculation type to identify the individual calculation positions more quickly. In addition, you can define a sequence for the calculation types with which the items in the calculation are automatically sorted. The calculation type is also required for the subsequent calculation in the calculation matrix.

For clarification purposes, this example assumes that a machine calculation consisting of the following calculation positions (and the corresponding calculation types) is created:

- Base Machine
- Special Equipment
- Attachments
- External Services
- Internal Services
- Transportation
- Other Cost
- Road Approval

To create a calculation type, proceed as follows:

1. Open your Business Central.
2. Open the search function from the role center (**ALT+Q**) .
3. Search for **Calculation Types** and click on the corresponding search result.
4. The **Calculation Types** page is displayed.

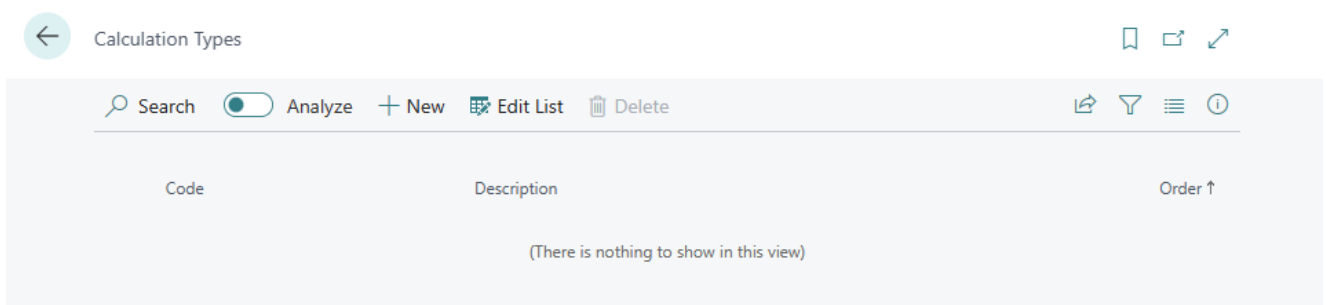


Figure: Create Calculation Type

5. Click on **New** in the menu bar to create a new calculation type.
6. A new line is displayed.
7. Enter a code for the calculation type in the **Code** column.
8. Enter a description for the calculation type in the **Description** column.
9. Enter a numerical value in the **Order** column. The numerical value controls the order in which the options are displayed in the selection of calculation types.

Code	Description	Order ↑
→ BASE MACHINE	Configurable basic machine	1
SPECIAL EQUIPMENT	Special Equipment for base machines	2
ATTACHMENTS	Attachments (components) for base machines	3
EXTERNAL SERVICES	External services for basic machines	4
INTERNAL SERVICES	Internal services for basic machines	5
TRANSPORTATION	Transportation of the machine	6
OTHER COST	Other Costs	7
ROAD APPROVAL	Cost for road approval	8

Figure: Example Calculation Types

You have created the calculation types. You can use the calculation types later in calculation schedule to define the totaling.

Create Calculation Number Series

To set up **Beyond Calculation**, you need to set up the calculation number series. The number series assigns unique codes from a series in order to be able to distinguish the calculation documents from one another.

To set up the calculation number series, proceed as follows:

1. Open your Business Central.
2. Open the search function from the role center (**ALT+Q**).
3. Search for **Calculation Setup** and click on the corresponding search result.
4. The **Calculation Setup** page is displayed.

Figure: Calculation Setup

5. Click in the **Calculation Nos.** field.
6. You can select an existing number series or create a new number series from the dropdown list that is displayed. If you would like to create a new number series, you can find more information on this in the section [How to create a new number series](#).

You have created and assigned a number series for the calculation documents.

Create Calculation Schedule Template

This chapter describes how to create a calculation schedule template. In the calculation schedule template, you can display the

calculation positions that make up your calculation and create a template for a calculation schedule. You also have the option of using formulas and calculation constants for the calculation position in order to calculate items such as overhead costs for individual calculation positions.

To create a calculation schedule template, proceed as follows:

1. Open the **Calculation Setup** page.

Figure: Calculation Setup

2. Click in the **Calc. Sched. Template** field.
3. Select the **New** option in the dropdown menu that is displayed to create a new calculation schedule template.
4. A new calculation schedule template card is displayed.

Row No.	Totaling Type	Totaling	Description	As Unit Cost	As Unit Price	As Calc. Unit Cost
→				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure: Calculation Schedule Template Card

5. Enter a name for the calculation schedule template in the **Name** field.
6. Enter a description for the calculation schedule template in the **Description** field.
7. Enter the value **STANDARD (Default)** in the **Column Layout** field.
8. You can store the calculation positions in the **Lines** area. For the following description, we assume that in addition to the actual costs for a calculation position (see section [Setup Calculation Types](#)), overhead costs or a margin should also be included in the calculation.
9. Enter a code for the calculation position in the **Row No.** column.
10. Choose between the following options for the newly created row under the **Totaling Type** column:

- **Calculation Type Total:** Select this option to create a calculation position using a calculation type for the calculation matrix.
- **Formula:** Select this option if you want to display or calculate a formula or a constant for display in the calculation matrix.

The following figure shows an example calculation schedule template. The calculation types from the section [Setup Calculation Types](#) are added (see rows with the value **Calculation Type Total** in the **Calculation Type** field). Margins, overheads and totals of the calculation types for the calculation matrix are calculated using the calculated values (see rows with the value **Formula** in the **Totalling Type** field). Costing constants (here percentage values) are also used.

Row No.	Totalling Type	Totalling	Description	As Unit Cost	As Unit Price	As Calc. Unit Cost
SEP	Calculation Type Total	SPECIAL EQUIPMENT	Special Equipment for base machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SEPOV	Formula	"SEPOV"	Special Equipment Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	SEP+(SEP*SEPOV/100)	Sum Special Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AT	Calculation Type Total	ATTACHMENTS	Attachments (components) for base machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATOV	Formula	"ATOV"	Attachments Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	AT+(AT*ATOV/100)	Sum Attachments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ES	Calculation Type Total	EXTERNAL SERVICES	External services for basic machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ESOV	Formula	"ESOV"	External Service Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	ES+(ES*ESOV/100)	Sum External Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IS	Calculation Type Total	INTERNAL SERVICES	Internal services for basic machines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ISOV	Formula	"ISOV"	Internal Services Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	IS+(IS*ISOV/100)	Sum Internal Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
T	Calculation Type Total	TRANSPORTATION	Transportation of the machine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOV	Formula	"TOV"	Transportation Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	T+(T*TOV/100)	Sum Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OC	Calculation Type Total	OTHER COST	Other Costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OCOV	Formula	"OCOV"	Other Cost Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	OC+(OC*OCOV/100)	Sum Other Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RA	Calculation Type Total	ROAD APPROVAL	Cost for road approval	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RAOV	Formula	"RAOV"	Road Approval Overhead Cost	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SUM	Formula	RA+(RA*RAOV/100)	Sum Road Approval	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL	Formula	SUM	Total Sum of Calculation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MARGIN	Formula	MARGIN	Margin for total sum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SALES PRICE	Formula	SUM+(SUM*MARGIN/100)	Sales Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure: Configured Calculation Schedule Template

11. To create a calculation constant, copy the value from the **Row No.** column for the constant (here, for example, **SEPOV** for overhead costs of the calculation position **SE - Special Equipment**).
12. Click on **Related > Calculations > Constants** in the menu bar.

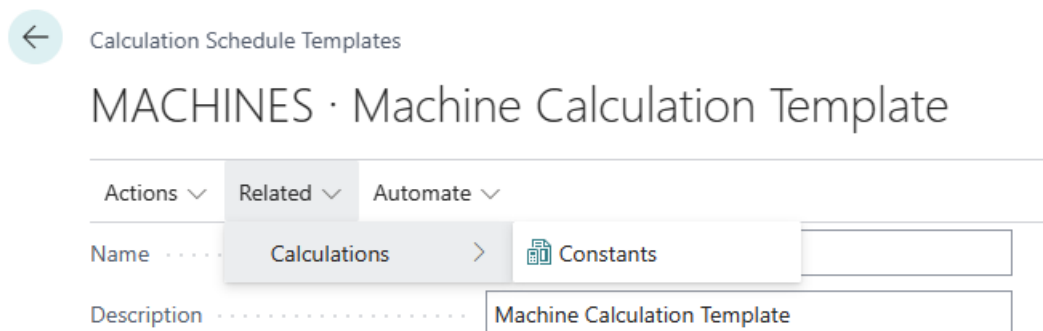


Figure: Create Calculation Constants

13. The **Calculation Constants** page is displayed.
14. Under the **Code** column, enter the copied value from the **Row No.** column.
15. Enter a description for the constant in the **Description** column.
16. To assign a value to the constant, select the corresponding line from the list and click on the **Values** menu option.

17. The constants card is displayed.

Starting Date ↑	Value
→	0.00

Figure: Define Value for Calculation Constant


18. Under the **Starting Date** column, enter a date from which the constant is to be used.
19. Enter the value for the calculation constant in the **Value** column.
20. Close the card and return to the **Calculation Constants** page.
21. Close the page and return to the **Calculation Schedule Templates** page.
22. As described in the previous steps, define a value and a start date for each constant. In our example, we have used a percentage value for the constants, but you can also add a flat rate to the total. Under the **Sum** values under the **Row No.** column, you can see the formulas for calculating the overhead cost.
23. Create your template and then change the value in the **Status** field under the **General** tab to **Released** in order to be able to use the calculation schedule template.

You have created a calculation schedule template.

Create Post Calculation Number Series

This section describes how to create and assign a number series for continuous calculations or post calculations.

Proceed as follows to create a number series for continuous calculations or post calculations:

1. Open your Business Central.
2. Open the search function from the role center (**ALT+Q**) .
3. Search for **Calculation Setup** and click on the corresponding search result.
4. The **Calculation Setup** page is displayed.

Calculation Setup

Setup | More options

General

Calculation Nos.

Calc. Sched. Template

Continuous / Post Cal...

Calc. Item No.

Figure: Calculation Setup


5. Click in the **Continuous / Post Calculation Nos.** field.
6. You can select an existing number series or create a new number series from the dropdown list that is displayed. If you would like to create a new number series, you can find more information about this in the section [How to create a new number series](#).

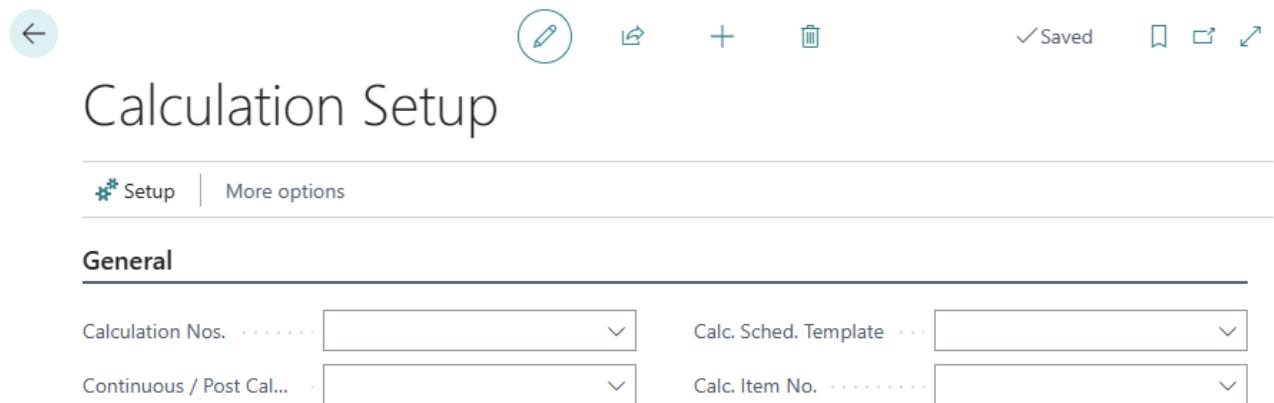
You have created and assigned a number series for a continuous calculation or post calculation.

Setup Default Item Number for Calculation Lines

This section describes how to set up an item number for sales quote lines. The item is required to create a precalculation. You do not need to create a new item for each precalculation, it is sufficient to add the item to your master data once.

Um einen Artikel zu erstellen, der als Platzhalter für die Kalkulation verwendet wird, gehen Sie wie folgt vor:

1. Open your Business Central.
2. Open the search function from the role center (**ALT+Q**) .
3. Search for **Calculation Setup** and click on the corresponding search result.
4. The **Calculation Setup** page is displayed.



The screenshot shows the 'Calculation Setup' page. At the top, there is a navigation bar with a back arrow, a search icon, and several action icons (share, add, delete). The page title is 'Calculation Setup'. Below the title, there is a navigation bar with 'Setup' and 'More options'. Under the 'General' section, there are four dropdown menus: 'Calculation Nos.', 'Calc. Sched. Template', 'Continuous / Post Cal...', and 'Calc. Item No.'.

Figure: Calculation Setup

5. Click in the **Calc. Item No.** field and select the **New** option from the dropdown menu.
6. A new Item card is displayed.
7. Fill in the mandatory fields on the item card and enter the item number in the **Calc. Item No.** field on the **Calculation Setup** page.


You have stored the item number for sales quote lines in the setup and thus set up **Beyond Calculation**.

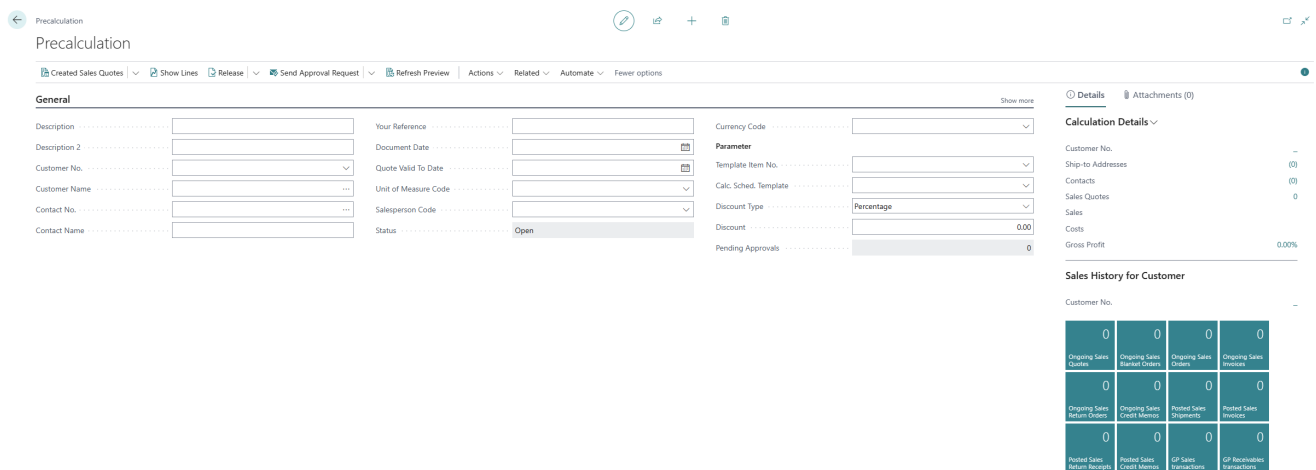
[Next Chapter](#)

Create Precalculation

This chapter describes how to create a precalculation. The precalculation is used to determine a total sales price for one or more items. The price of the individual calculation positions is calculated in the calculation schedule template using the calculation matrix.

To create a precalculation, proceed as follows:

1. Open your Business Central.
2. Open the search function from the role center (**ALT+Q**) .
3. Search for **Precalculation List** and click on the corresponding search result.
4. The **Precalculation List** page is displayed.
5. Click on the **New** option in the menu bar to open a new precalculation card.
6. The precalculation card is displayed.



General		Your Reference		Currency Code	
Description		Document Date		Parameter	
Description 2		Quote Valid To Date		Template Item No.	
Customer No.		Unit of Measure Code		Calc. Sched. Template	
Customer Name		Salesperson Code		Discount Type	Percentage
Contact No.		Status	Open	Discount	0.00
Contact Name				Pending Approvals	0

Calculation Details	
Customer No.	
Ship-to Addresses	(0)
Contacts	(0)
Sales Quotes	0
Sales	
Costs	
Gross Profit	0.00%

Sales History for Customer			
Ongoing Sales Quotes	0	Ongoing Sales Invoiced Orders	0
Ongoing Sales Orders	0	Ongoing Sales Invoices	0
Ongoing Sales Return Orders	0	Posted Sales Invoices	0
Ongoing Sales Credit Memos	0	GP Sales Transactions	0
Posted Sales Invoices	0	GP Receivables Invoicing	0

Figure: Create Precalculation

7. Enter a description for the precalculation in the **Description** field.
8. Optionally enter a more detailed description for the precalculation in the **Description 2** field.
9. Click in the **Customer No.** field and select the customer for whom you want to create a precalculation. After selecting the customer, the system will add information to several fields. Check the fields filled in by the system.
10. The precalculation preview is displayed at the bottom of the precalculation card.

← Precalculation Precalculation · CALC-000001

Created Sales Quotes | Show Lines | Release | Send Approval Request | Refresh Preview | Actions | Related | Automate | Fewer options

General Show more

Description: CAT Mini Excavator 301.6 Your Reference: Currency Code: Parameter: 1000

Description 2: CATERPILLAR Mini Excavator 301.6 Document Date: 4/8/2024 Calc. Sched. Template: MACHINES

Customer No.: 10000 Quote Valid To Date: Discount Type: Percentage

Customer Name: Adatum Corporation Unit of Measure Code: PCS Discount: 0.00

Contact No.: CT000001 Salesperson Code: JO Pending Approvals: 0

Contact Name: Robert Townes Status: Open

+ Add Item Add Text

BEYONDIT
ZUKUNFTSICHERE IT-PROJEKTE

CHOWH USA, Inc., 7122 South Antero Street, Westmore, Atlanta, GA 31172
Adatum Corporation
Robert Townes
192 Market Square
Atlanta, GA 31172
USA

Document No. CALC-000001
Document Date 2024-08-04
Customer No. 10000
Salesperson Jim Olive
E-Mail JO@contoso.com

Sales - Quote

Pos. No.	Description	Quantity	Unit of Measure	Unit Price	Line Amount
Total \$ excl. VAT					0.00
Total \$ incl. VAT					0.00

Ship-to Address Adatum Corporation, Robert Townes, 192 Market Square, Atlanta, GA, 31172, USA
Payment Terms 1 Month/2% 8 days

Sub-Total 0,00 USD
Discount in USD 0
Discount 0,00 USD
Total without VAT 0,00 USD
VAT 0,00 USD
Total with VAT 0,00 USD

Figure: Preview on the Precalculation card

11. Complete the information on the precalculation card under the **General** tab.
12. To add calculation positions to the precalculation, click on the **Add Item** option.

← Precalculation Precalculation · CALC-000001

Created Sales Quotes | Show Lines | Release | Send Approval Request | Refresh Preview | Actions | Related | Automate | Fewer options

General > CAT Mini Excavator 301.6 Adatum Corporation Open 1000 MACHINES

+ Add Item Add Text

Title: Configurable basic machine Quantity: 0 Price per Unit: 0 Selling Price: 0,00

VAT in %: 0 Unit: Piece Price per Unit: 0 Purchase Price: 0,00

Description:

+ Save Delete

BEYONDIT
ZUKUNFTSICHERE IT-PROJEKTE

CHOWH USA, Inc., 7122 South Antero Street, Westmore, Atlanta, GA 31172
Adatum Corporation
Robert Townes
192 Market Square
Atlanta, GA 31172
USA

Document No. CALC-000001
Document Date 2024-08-04
Customer No. 10000
Salesperson Jim Olive
E-Mail JO@contoso.com

Sales - Quote

Pos. No.	Description	Quantity	Unit of Measure	Unit Price	Line Amount
Total \$ excl. VAT					0.00
Total \$ incl. VAT					0.00

Ship-to Address Adatum Corporation, Robert Townes, 192 Market Square, Atlanta, GA, 31172, USA
Payment Terms 1 Month/2% 8 days

Sub-Total 0,00 USD
Discount in USD 0
Discount 0,00 USD
Total without VAT 0,00 USD
VAT 0,00 USD
Total with VAT 0,00 USD

Figure: Add Item to Precalculation

13. In the **Title** field, enter a description for the item you want to add to the preliminary costing.
14. Select one of the configured calculation types from the dropdown menu below. You can define the calculation types yourself; you can find more information on this in the chapter [Setup Calculation Types](#).
15. Enter the number of items you want to add to the precalculation in the **Quantity** field.
16. Enter the price of the item in the **Price per Unit** fields. It is necessary that you enter at least the unit price for the approximate selling price. You can later use the calculation matrix to calculate the exact selling price including all

surcharges such as overheads or the margin. The price per unit for the purchase price is optional and does not have to be maintained.

17. Enter the description for the item in your precalculation in the **Description** area.
18. Click on **Save** to add the calculation position to your precalculation. The calculation preview is updated automatically.

The screenshot displays the 'Precalculation' interface for document 'CALC-000001'. It is divided into several sections:

- General Information:** Fields for Description (CAT Mini Excavator 301.6), Description 2 (CATERPILLAR Mini Excavator 301.6), Customer No. (10000), Customer Name (Adatum Corporation), Contact No. (CT000001), Contact Name (Robert Townes), Your Reference, Document Date (4/8/2024), Quote Valid To Date, Unit of Measure Code (PCS), Salesperson Code (JO), Status (Open), Currency Code, Parameter, Template Item No. (1000), Calc. Sched. Template (MACHINES), Discount Type (Percentage), Discount (0.00), and Pending Approvals (0).
- Item Details:** A table for 'CAT Mini Excavator 301.6' showing a quantity of 1.00, a price per unit of 35,000.00, and a selling price of 35,000.00. A VAT in % of 0 is also shown. A detailed description box includes operating weight, engine specifications (Three-cylinder diesel, 1.1 L, 16.1 kW / 21.6 hp), and emission stage V.
- Sales - Quote:** A summary table with columns for Pos. No., Description, Quantity, Unit of Measure, Unit Price, and Line Amount. It shows one position for the excavator at 35,000.00 USD. Below the table, detailed technical specifications for the excavator are listed, including engine, hydraulic system, and upper structure details.
- Summary:** A section showing 'Sub-Total' as 35,000.00 USD, 'Discount' as 0.00 USD, 'Total without VAT' as 35,000.00 USD, 'VAT' as 0.00 USD, and 'Total with VAT' as 35,000.00 USD.

Figure: Added Base Machine to precalculation

19. Once you have added all the calculation positions, you can use the calculation matrix to see the sales prices for the positions and the exact sales price for the entire precalculation including all overheads, margin and other calculated values. Click on **Related > Matrix** in the menu bar.
20. The calculation matrix you have set up is displayed.

Calc. Schedule Overview Matrix - MACHINES - STANDARD



Search 🔗 ☰

Row No.	Description	Totaling	Totaling Type	Standard
				-
RA	Cost for road approval	ROAD APPROVAL	Calculation T...	1,620.00
RAOV	Road Approval Overhead Cost	"RAOV"	Formula	-
SUM	Sum Road Approval	RA+(RA*RAOV/100)	Formula	1,620.00
				-
TOTAL	Total Sum of Calculation	SUM	Formula	41,970.00
MARGIN	Margin for total sum	MARGIN	Formula	8.50
SALES PRICE	Sales Price	SUM+(SUM*MARGIN/100)	Formula	45,537.45

Close

Figure: Precalculation matrix


You have created a precalculation.

[Next Chapter](#)

Create Sales Quote from Precalculation

This chapter describes how to create a sales quote from a precalculation. Before you can create a sales quote from a precalculation, you must approve and/or release the precalculation.

To create a sales quote from a precalculation, proceed as follows:

1. Open your Business Central.
2. Open the search function from the role center (**ALT+Q**) .
3. Search for **Precalculation List** and click on the corresponding search result.
4. The **Precalculation List** page is displayed.
5. Select the precalculation from the list.
6. The precalculation card is displayed.
7. To create a sales quote from the precalculation, click on **Create Sales Quote** in the menu bar. Please note that you can only create a sales quote from released precalculations.

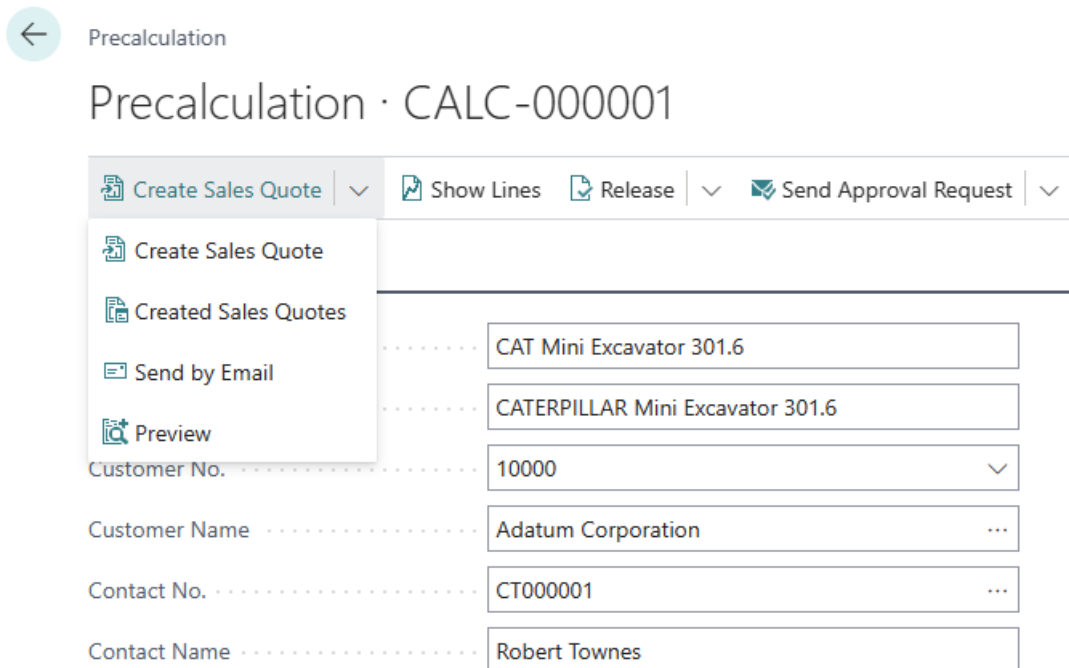


Figure: Create Sales Quote from Precalculation

8. The lines from the precalculation are transferred to a new sales quote and the sales quote card is displayed.

You have created a sales quote from a precalculation. You can use the **Created Sales Quotes** button to display the sales quotes that were created with this precalculation.