

# **Avanade Flexible Calculation**

## **User Documentation**

### **Microsoft Dynamics 365**

### **for Finance and Operations**

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**Document Information:**

This document describes functionality related to Avanade Flexible Calculation Asset.

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# 1 Introduction

All types of calculation in the range of overhead calculation can be mapped with the flexible calculation module **Flexible Calculation** in Dynamics 365 for Finance and Operations. The principle is based on the freely definable calculation schemas. Flexible Calculation is suitable for the trade (without BOMs) as also for production enterprises (with BOMs and work route). The different calculation plans and cost models can be processed easily in costing calculation. The continuous market changes are thus mapped comparable with small effort.

## 1.1 Performance characteristics

### Implementing a calculation:

The calculation can be done directly from the following screens:

- Production job
- Customer offer
- Customer job
- Item stock

The calculation can be done one-level or multi-level (Explosion of the assemblies) depending upon selection. The calculation batch size can be stored in the standard job settings "Lager" [warehouse] of the Product master for each production stage in the quantity fields *minimum job quantity*, *maximum job quantity* or *standard job quantity*. The used material can be differently valued on request. The pricing can be done amongst other things as per purchase price, as per cost price or by the current purchase prices of the commercial agreements. The calculation overheads can be registered in the calculation schema depending on quantity and time. If necessary these can be customized with the costing calculation.

The functionality of the **Flexible Calculation** is always limited to the active clients.

### Overview of calculation structure:

- **Calculation schemas:** The calculation schemas, consisting of costing row rows and variables is the computation base of the calculation. Several schemas and calculation models can be defined.
- **Calculation formulas:** The values are computed in the costing rows, rows through formulas.
- **Direct material costs (MEK),** usually raw material (purchased items) is valued depending upon requirement for example for the cost price, purchase price or with consideration of the current commercial agreements.
- **Material overheads (MGK):** Overhead on material can be made in general or differentiated as per Products or Products groups.
- **Manufacturing direct costs (FEK):** The valuation records for resources (e.g. machines) are separated according to setup and production costs.
- **Production costs overheads (FGK):** Overheads on production costs are calculated in general or after resources or resources groups.
- **Administration and Sales costs (VVGK):** Administration- and sales costs can be allocated in any number.



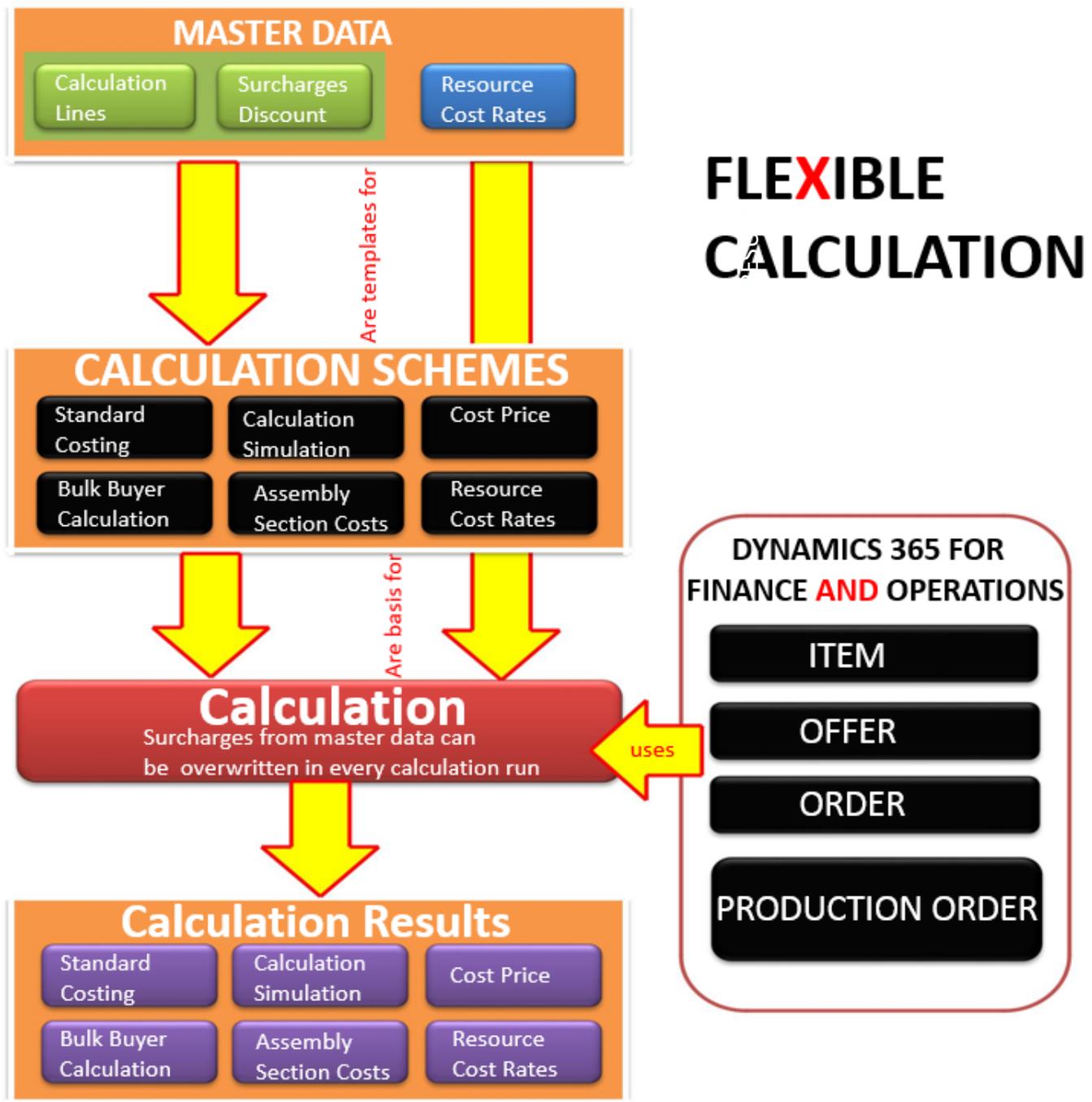
- **General overheads:** These include for example calculation overheads from discounts, profit overheads, cash discount etc.
- **Costing simulation:** Temporary market changes can be considered in the overheads (subsequent year calculation).
- **Cost allocations:** Cost redistribution for tool/teachings can be considered as unit cost prices per unit.

#### **The result:**

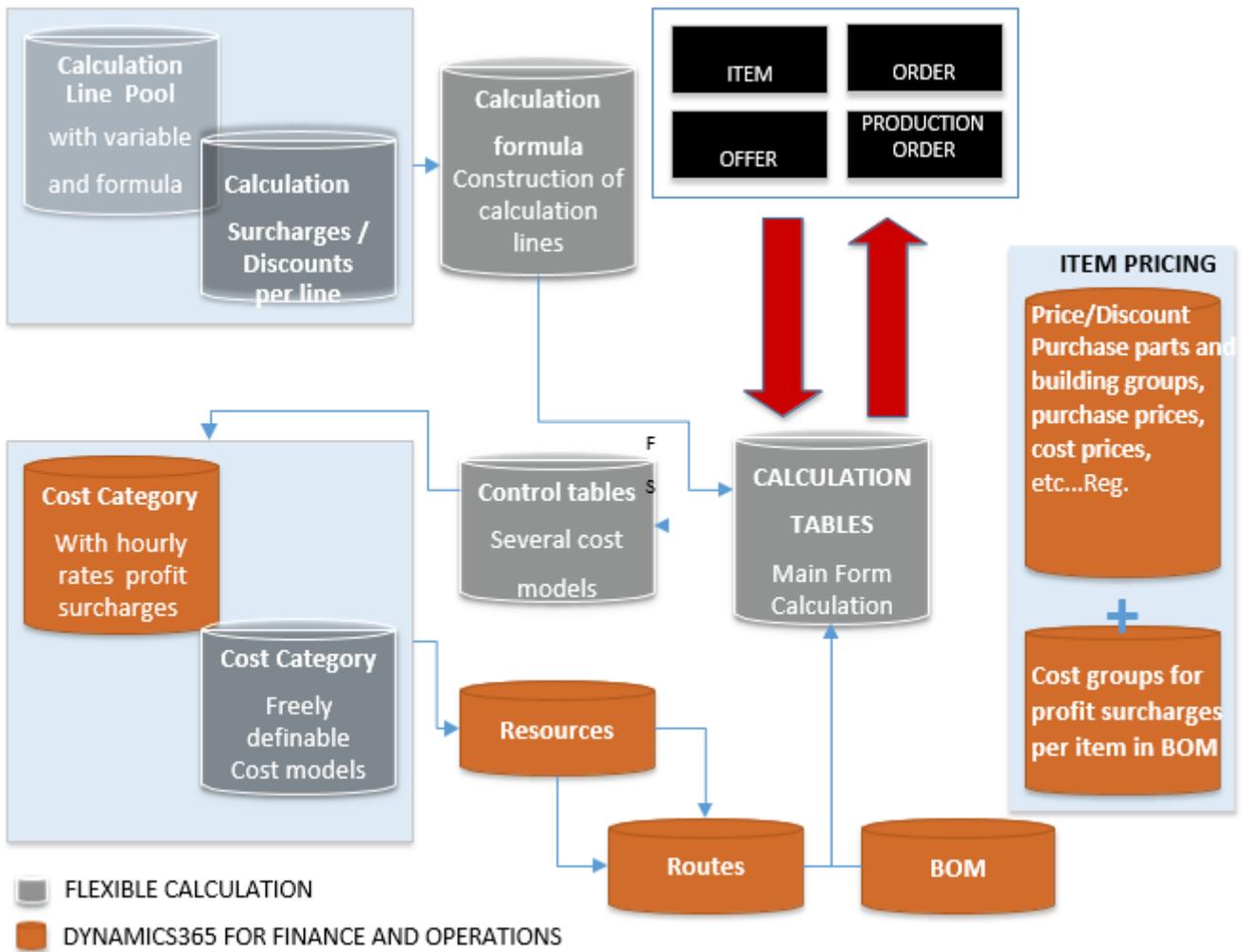
- **Acquisition in Product master:** The determined price per unit can be transferred as calculation, simulation, and acquisition or selling price to the Product master.
- **Acquisition in order and offer:** The determined unit price of the final stage can be transferred to the offer and/or to the job.
- **Representation of the calculation result:** The result is displayed in a clear structure representation.



## 2 Installation Structure



### 3 Table and data structure



## 4 Calculation parameter

The module basic settings are defined in the form **calculation parameters**.

### 4.1 General

Calculation parameters

General

Number sequences

**SCHEME**  
Scheme number: 050-200

**DEFAULT VALUES FOR NEW SCHEMES**

**BASIS**  
Extra charges modifiable: No  
Trade agreements: Yes  
Include also discount: No

**RESOURCE COSTS**  
Version: 10

**ASSEMBLIES**  
Explode assemblies: No  
Base price: According to calculation group  
Search strategy: Active  
Version: [blurred]  
Alt. std. price: No  
Search strategy: Active  
Version: [blurred]

**PURCHASED ITEMS**  
Base price: According to calculation group  
Search strategy: Active  
Version: [blurred]  
Alt. std. price: No  
Search strategy: Active  
Version: [blurred]

**QUANTITY BASE**  
Final product: Minimum  
Assemblies: Standard/Minimum

**RESULT**

**SALES ORDER LINE**  
Transfer to sales line: No

**CALCULATED PRICE**  
Transfer as calculated price: No  
Version: [blurred]

**SIMULATION PRICE**  
Transfer as simulation price: No  
Version: [blurred]

**COST PRICE**  
Transfer as invent price: No  
Version: [blurred]

**SALES PRICE**  
Transfer as sales price: No

**ZERO-PROTECTION**  
Do not overwrite with zero: No

#### 4.1.1 Schema



**SCHEME**  
Scheme number  
050-200

<b>Schema number</b>	Calculation schema for new calculations
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#### 4.1.2 Basis

**BASIS**

Extra charges modifiable  
 No

Trade agreements  
 Yes

Include also discount  
 No

<b>Modifiable overheads</b>	The overheads from the costing row rows are copied with the start of the calculation. With selection, the copied overhead rates can be customized for the costing calculation (Simulation different market-and competitive positions).
<b>Commercial agreements</b>	Should the commercial agreements be considered for the pricing calculation? Only possible if purchase price is selected as price-basis and a price in the commercial agreements is deposited for the Product in combination with the main supplier.
<b>Discounts also</b>	If additionally, to the processing of the commercial agreements also the discounts in the pricing should be considered?

#### 4.1.3 Resources costs

**RESOURCE COSTS**

Version

<b>Version</b>	Selection of a post calculation version as valuation basis. If no post calculation version is selected, then it is calculated with the active cost category price.
----------------	--

#### 4.1.4 Assemblies

**ASSEMBLIES**

Explode assemblies

No

Base price

According to calculation group

Search strategy

Active

Version

Alt. std. price

No

Search strategy

Active

Version

<b>Explosion of Assemblies</b>	If the calculation should be done single-level (base price) or multi-level (explosion of the assemblies)? Yes = multi-level processing; all the successor fields in the data area assemblies are not relevant.
<b>Basis Price</b>	The settings in the field basis price is only relevant if the Flag Assembly explosion is not activated:

	<ul style="list-style-type: none"> <li>• <b>Product Sales pricing</b> Product master-&gt;administer costs • Product price-&gt;Price type: Pricing. If no price is found, then the price <i>Product master-&gt;In the range selling-&gt;Price</i> is considered.</li> <li>• <b>Product cost price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Costs. If no price is found, then the price <i>item stock-&gt;area sales-&gt;price</i> is considered.</li> <li>• <b>Product purchase price</b> Product master -&gt;administer costs -&gt;Product price-&gt;price type: Costs. If no price is found, then the price <i>Product master -&gt;In the area sales -&gt;Price</i> is considered.</li> <li>• <b>Last purchase price</b> The last booked purchase price with a purchase invoice.</li> <li>• <b>Calculation price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Calculation price</li> <li>• <b>Simulation price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Simulation price</li> <li>• <b>Backbilling group</b> The price search is performed according to the costing groups (standard functionality of Dynamics 365 for Finance and Operations). Parameterization of the costing group see <i>7.2.1 Costing group</i>.</li> </ul>
<b>Search sequence (basis price)</b>	<p>As possibly several prices can be found as basis price, it can be indicated after which strategy the basis price for the calculation is selected:</p> <ul style="list-style-type: none"> <li>• <b>Active:</b> the active base price is selected. If several active basis prices are found, most current basis price from the activation date is selected.</li> <li>• <b>Version:</b> A price of a price version should be found. If several basis prices of a price version are found, the latest basis price of the activation date (or from- date) is selected. Thus, the prices do not have to be activated.</li> <li>• <b>Version active then:</b> A price of a price version is to be found. If no basis price of a price version can be found, the latest active basis price is</li> </ul>
<b>Version (basis price)</b>	The current post calculation version, which should be used for the basis pricing.
<b>Old. Std. - price</b>	If the pricing could not be successfully performed over the field basis price, the <i>Basis cost price</i> can be used as alternative.
<b>Search sequence (Old. Std.price)</b>	See <i>search sequence (basis price)</i> with the difference that it concerns the alternative standard price (basis cost price).
<b>Version (Old. Std.price)</b>	The current post calculation version, which should be used for the basis cost pricing.



If a module is available for the bill of material item with costing group settings, end the *BOMbill of material explosion*, then the position for costing is handled like a purchased part. Otherwise the settings for assemblies are applicable.

#### 4.1.5 Purchased items

#### Basis price

Selection of the required pricing for purchased items (Product type, Product and service, as well as BOMbill of materials, which are not exploded):

	<ul style="list-style-type: none"> <li>• <b>Product selling price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Selling price. If no price is found, then the price <i>Product master-&gt;area sales-&gt;price</i> is considered.</li> <li>• <b>Product cost price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Selling price. If no price is found, then the price <i>Product master-&gt;area sales-&gt;price</i> is considered.</li> <li>• <b>Product purchase price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Selling price. If no price is found, then the price <i>Product master-&gt;area sales-&gt;price</i> is considered.</li> <li>• <b>Last purchase price</b> The last with a purchase invoice booked purchase price.</li> <li>• <b>Calculation price</b> Product master-&gt;administer costs -&gt;Product price-&gt;price type: Calculation price</li> <li>• <b>Simulation price</b> Product master-&gt;administer costs -&gt;Product price-&gt;Price type : Costing simulation price</li> <li>• <b>After costing groups</b> The price search is done according to the costing groups (standard functionality of Dynamics AX). Parameterization of the costing group see 7.2.1 Costing Group.</li> </ul>
<b>Search sequence (basis price)</b>	See <i>search sequence (base price)</i> within the area <i>assemblies</i> .
<b>Version (basis price)</b>	See <i>version (base price)</i> within the area <i>assemblies</i>
<b>Old. Std.price</b>	See <i>Old Std.Price</i> within the area <i>assemblies</i>
<b>Search sequence (alto. Hr. price)</b>	See <i>search sequence (alto. Hr. - price)</i> within the range <i>Assemblies</i>
<b>Version (alto. Hr. price)</b>	See <i>version (Old Std.Price)</i> within the range <i>Assemblies</i>

#### 4.1.6 Quantity basis

QUANTITY BASE

Final product

Minimum ▼

Assemblies

Standard/Minimum ▼

#### Final product

None	The lot quantities are not considered.
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Minimum	<p>If the quantity in the calculation is smaller than the minimum lot size, then it is assumed that even if the minimum lot size is produced and the setup costs are considered proportionately for the calculation.</p> <p>Example: Quantity in calculation: 3 Minimum lot size: 100</p> <p>Result: The Setup costs enters at 3/100 in the calculation</p>
Standard	<p>If the quantity in the calculation is smaller than the standard lot size, then it is accepted that even if the standard lot size is produced and setup costs are considered proportionately for the calculation.</p> <p>Example such as minimum, only with standard -instead of minimum lot size</p>
Maximum	<p>If the quantity in the calculation is larger than the maximum lot size, then it is assumed always after attaining the maximum lot size renewed setup costs occur.</p> <p>Example: Quantity in calculation: 350' 000 Maximum lot size: 100' 000</p> <p>Result: The setup costs are calculated four times.</p>
Standard/Minimum	Functions like minimum however uses the higher value of minimum or standard lot size.
Minimum/Maximum	<p>If the minimum lot size is fallen below, then setup costs are proportionately considered as in the setting "minimum".</p> <p>If the maximum lot size is exceeded, then the setup costs are again calculated while reaching the maximum lot size as in the setting "maximum".</p>
Minimum / Standard/Maximum	Functions like the setting "Minimum/Maximum", only that the larger value of Minimum or Standard lot size is used.
Standard/Maximum	<p>If the standard lot size is fallen below, then setup costs are proportionately considered, as in the setting "standard".</p> <p>If the maximum lot size is exceeded, then setup costs are again calculated while reaching the maximum lot size, as in the setting "maximum".</p>

## Assemblies

The quantity basis for the costing of setup costs on level modules (stage 1 - n) can be adjusted likewise (like the settings *quantity-basis Final product*).

### 4.1.7 Result



**RESULT**

**SALES ORDER LINE**  
Transfer to sales line  
No

**CALCULATED PRICE**  
Transfer as calculated price      Activate  
No       No   
Version

**SIMULATION PRICE**  
Transfer as simulation price      Activate  
No       No   
Version

**COST PRICE**  
Transfer as invent price      Activate  
No       No   
Version

**SALES PRICE**  
Transfer as sales price      Activate  
No       No   
Version

<b>Transfer to the order item</b>	The calculation result per unit is transferred to the referenced offer and/or order item.
<b>Takeover / Transfer as calculation price</b>	The calculation result per unit is transferred to the Product price, price type calculation price.
<b>Version (calculation price)</b>	The price version must be specified. It must be ensured that a price version is selected, which allows a calculation price (parameter setting price version).
<b>Activate (calculation price)</b>	Should the calculation price be immediately activated?
<b>Transfer as simulation price</b>	The calculation result per unit (simulation) is transferred to the Product master in the field simulation price.
<b>Version (simulation price)</b>	It must be ensured that a price version is selected, which allows a simulation price (parameter setting price version).
<b>Activate (simulation price)</b>	Should the simulation price be immediately activated?
<b>Transfer as cost price</b>	The calculation result per unit is transferred to the item price type of price costs.
<b>Version (cost price)</b>	It must be ensured that a price version is selected, which allows a cost price (parameter setting price version).
<b>Activate (cost price)</b>	Should the cost price be immediately activated?
<b>Transfer as selling price</b>	The calculation result per unit is transferred to the Product price, price type selling price.

<b>Version (selling price)</b>	It must be ensured that a price version is selected, which allows a selling price (parameter setting price version).
<b>Activate (selling price)</b>	Should the selling price be immediately activated?

#### 4.1.7 Protection



**ZERO-PROTECTION**

Do not overwrite with zero

No

**Do not overwrite with zero** The calculation result is not written back with result = 0 in the Product price.

## 4.2 Number range

Calculation parameters

General

Number sequences

Set up number sequences for calculations

Group

Reference	Number sequence code
Calculation number	Cal1
Scheme number	Cal1
Calculation bom number	Cal1
Calculation route number	Cal1
Calculation product number	Cal1

<b>Calculation number</b>	Unique key, which is allocated to calculations.
<b>Schema number</b>	Unique key, which is allocated to the calculation schemas.
<b>BOM Costing BOM number</b>	Unique key to the numbering of the costing calculation of BOM bill of materials.
<b>Costing calculation task list number</b>	Unique key for the numbering of the calculation task lists BOM.
<b>Costing calculation product number</b>	Unique costing calculation product identification.



## 5 Costing row pool

Costing rows are managed in the form **costing row pool**.

### Calculation line pool

Overview    General

	Line ↑	Variable	Line name	Type	Only ...	Formula	Extra charges ...
	80	Z_Forschung	Forschungsanteil (%)	Charge for BOM	<input type="checkbox"/>	SumHerstellkosten * CHARGE / ...	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	80	Z_Gewinn	Gewinnzuschlag (via Ko...	Profit charge for ...	<input checked="" type="checkbox"/>	SumHerstellkosten * CHARGE ...	<input checked="" type="checkbox"/>
	80	Z_Lagergemei...	Lagergemeinkosten Hal...	Charge for BOM	<input type="checkbox"/>	HalbFabr * CHARGE / 100	<input type="checkbox"/>
	80	Z_Lagergemei...	Lagergemeinkosten Ro...	Material charges	<input type="checkbox"/>	Material * CHARGE / 100	<input type="checkbox"/>
	80	Z_STLZuschl	Zuschlag für Stückliste	Charge for BOM	<input type="checkbox"/>	SumMaterial * 2	<input type="checkbox"/>

+ New    Delete

Overview    General

Valid for	Dimension name	Relation	From date	To date	From amount	To amount	Extra charge amount	Find next
All ▾			3/13/2018		0.00	0.00	150.00	<input type="checkbox"/>

<b>Item</b>	Item number for the sorting
<b>Variable</b>	Unique identification of the costing row. Important: No umlauts used for variable names.
<b>Line name</b>	Description of the costing row.
<b>Type</b>	Defines the costing row (see chapter 5.1 <i>costing row type</i> ). It is possible to create several costing rows of the same type.
<b>Only for Final product</b>	This parameter is valid only for overheads. The result of the row is calculated on the final product (without marking, the costing takes place in each calculation stage).
<b>Formula</b>	The formula determines costing in the costing row (see chapter 5.2 <i>formula definitions</i> ).
<b>Modifiable overheads</b>	The overhead in the cost of the calculation (calculation run) should be changeable. The controlling takes place in combination with the flag overheads modifiable in the form parameter and/or in the calculation

## Note that:

During the creation of a costing row, it must be paid attention to the fact that the character string **\*ZUS\*** (**Surcharges**) and **\*MENGE\*** (**Quantity**) can be used only in the field formula. The appropriate character string is used internally in costing routines.

## 5.1 Costing row type

The following selection options are available in the costing row:

<b>Text</b>	The text is used for a clear representation of the calculation result in the screen and in the report.
<b>Material costs</b>	The individual components of the BOM are calculated.
<b>Material overheads</b>	The overheads to the material are defined (formula), if necessary with different overhead rates to Product groups or Products.
<b>Production costs-setup</b>	The <b>setup</b> operation (tr, trB) is calculated in the work plan and/or operation. Basically, the production is valued through the cost category. In the setup operation the cost category and thus production direct costs are determined through the field setup cost category.
<b>Production costs Processing</b>	The <b>processing</b> operation (te, teB) is calculated in the work plan and/or operation. Basically, the production is valued through the cost category. In the <b>processing</b> operation, the cost category and thus production direct costs are determined through the field processing time cost category.
<b>Production costs-unit</b>	The valuation of the <b>unit cost</b> is calculated in the work plan and/or operation. Basically, the production is valued through the cost category. In the <b>unit cost</b> operation, the cost category and thus production direct costs are determined through the field unit cost category
<b>Production overhead setup</b>	The production overhead overheads to the production costs of <b>setup</b> are determined.
<b>Production overhead-processing</b>	The production overhead overheads to the production costs of <b>processing</b> are determined.
<b>Production overhead unit</b>	The production overhead overheads to the production costs of <b>unit costs</b> are determined.
<b>Semi-finished goods*</b>	An interim result on level module within the product structure must be determined. In the calculation schema it must be guaranteed that with multi-stage explosion the subtotal of the semi-furnished goods is projected for example in production costs.  Example of a costing row:  <b>Production costs = Material costs (MK) + production costs (FK) + subtotal of semi-furnished goods (production costs of semi-furnished goods)</b>
<b>Overheads for BOM</b>	An overhead row and the amount of overheads are defined, if it is desired in different amount to the calculated module (Product number and/or Product group).
<b>Profit markup for BOM</b>	A revenue overhead row and the amount are defined. If it is desired in different amount to the calculated module, normally as End-revenue overhead.
<b>Unit cost price</b>	Compute the unit cost per piece
<b>Subtotal</b>	Formation from any sums
<b>Total*</b>	Formation of the total
<b>Unit price*</b>	The price per unit results from the division of total and quantity.
<b>Value flow overhead</b>	Overhead from the post calculation sheet from the node type overhead.



<b>Value flow Rate</b>	Overhead from the post calculation sheet from the node type record.
------------------------	---



Value flow output units based	
Value flow output units based	
Value flow based on units	

\* Costing row must be created per schema.

## 5.2 Formula definitions

The result of a costing row is determined through the row type and by the formula. In the field formula pre-defined variables can be linked with arithmetic unit operations in a defined syntax. The syntax of the formulas is checked with the acquisition of the costing row. A fundamental Plausibility check of the costing row is only made during the creation in the calculation schema.

<b>Menge (Quantity)</b>	The variable <b>MENGE (Quantity)</b> contains the quantity, with which it is calculated. The variable <b>ZUS (Surcharges)</b> contains the overhead value, which belongs to the current row. It is defined by the formula, whether the overhead value is an amount or a
<b>Key</b>	The variable <b>KEY</b> provides the option to use Product or resources-specific values for the costing depending upon level.  <u>Application example:</u> All Products, which are determined for a QA-testing, should receive an overhead in the overhead calculation.
<b>Kunde (Customer)</b>	The variable <b>KUNDE (Customer)</b> provides the option to use customized values for the overhead calculation.  <u>Application example:</u> For the selling price calculation, the custom duty should be computed in the form of VVGK overheads:  <b>CustTable: find (KUNDE). Country! = Company Info: find (). Country)? ZUS: 0</b>  The overhead is calculated here, if the country code of the customer is not equal to the country code in the business data.

### Other Formula Examples:

Variable	Formula	Remark
<b>MatZu</b>	MatZu * ZUS/100	Percent overhead to material costs (MatZu)  The overhead ZUS is acquired in the field overhead (form area Overheads and deductions).
<b>FeZuta</b>	FeKota + ZUS	fixed overhead to production costs
<b>EinKo</b>	EndSum / MENGE[QUANTITY]	Costing per unit price
<b>Rabatt</b>	VARIABLE – (VARIABLE * ZUS / 100)	Discount – deduction in %
<b>Skonto</b>	VARIABLE * ZUS / (100-ZUS)	Discount - deduction in %, in hundreds



<b>FeTot</b>	FeTr+FeTrZus+FeTb+FeTbZus+FeStk	Total production costs
<b>MindQuali</b>	(SumFe+SumMat) *InventTable: find (KEY). AVA_CheapQualityOverhead/100	Compute low quality deduction
<b>BruttoVP</b>	NettoVP+ErlMind	calculated gross VP
<b>BruttoVP1</b>	BruttoVP/MENGE	calculated gross VP per unit
<b>ErlMind</b>	NettoVP/100*ZUS	Proceeds reductions (related to NettoVP) 5%,  The overhead ZUS is acquired in the field overhead (form area Overheads and deductions).

<b>Variable one</b>	<b>Formula</b>	<b>Remark</b>
<b>Gewinn [As-set]</b>	SK/100*ZUS	Asset (related to SK)  The overhead ZUS is registered in the field overhead (form area Overheads and deductions).  Overhead only to final product
<b>NettoVP</b>	SK+Gewinn	calculated net VP
<b>SK</b>	HK+VtGK+VwGK	Cost price
<b>VTGK</b>	HK/100*ZUS	Sales overhead (related to HK)  The overhead ZUS is acquired in the field overhead (form area Overheads and deductions).  Overhead only to final product
<b>VVGK</b>	HK/100*ZUS	Administrative overheads (related to HK)  The overhead ZUS is acquired in the field overhead (form area Overheads and deductions).  Overhead only to final product

### 5.3 Overheads and Deductions

In the form **costing row pool**, the calculation overheads can be created in the lower part of form area overhead ("ZUS" in the field formula). There is a possibility to limit the overhead value over a certain period. The overhead value forms the basis for the formula (see chapter 5.1 *costing row type*). With the special characters (+ -/\*) the desired result can be computed. The deductions can be controlled by the input of negative values. Basically, the fixed and proportional overheads can be registered.

Overheads and deductions can be defined for the following costing row types:

- *Material overheads*
- *Production overhead – Set up*
- *Production overhead - Processing*
- *Production overhead - Unit*
- *Overhead for BOM*



- Asset overhead for BOM

### Calculation line pool

Overview General

✓	Line ↑	Variable	Line name	Type	Only ...	Formula	Extra charges ...
	80	Z_Forschung	Forschungsanteil (%)	Charge for BOM	<input type="checkbox"/>	SumHerstellkosten * CHARGE / ...	<input checked="" type="checkbox"/>
✓	80	Z_Gewinn	Gewinnzuschlag (via Ko...	Profit charge for ...	<input checked="" type="checkbox"/>	SumHerstellkosten * CHARGE ...	<input checked="" type="checkbox"/>
	80	Z_Lagergemei...	Lageregemeinkosten Hal...	Charge for BOM	<input type="checkbox"/>	HalbFabr * CHARGE / 100	<input type="checkbox"/>
	80	Z_Lagergemei...	Lageregemeinkosten Ro...	Material charges	<input type="checkbox"/>	Material * CHARGE / 100	<input type="checkbox"/>
	80	Z_STLZuschl	Zuschlag für Stückliste	Charge for BOM	<input type="checkbox"/>	SumMaterial * 2	<input type="checkbox"/>

+ New Delete

Overview General

Valid for	Dimension name	Relation	From date	To date	From amount	To amount	Extra charge amount	Find next
All ▾			3/13/2018		0.00	0.00	150.00	<input type="checkbox"/>

<b>Costing variable</b>	Unique identification of the costing row. Important: Use no umlauts for variable names.
<b>Type</b>	Defines the costing row (see chapter 5.1 <i>costing row type</i> ). It is possible to create several costing rows of the same type.
<b>Valid for</b>	Restriction possibilities for <ul style="list-style-type: none"> <li>• Table</li> <li>• Group</li> <li>• All</li> <li>• Cost group</li> <li>• Dimension</li> </ul>
<b>Dimension name</b>	Selection of the financial dimension Only in connection with the previous setting. Valid for dimensions
<b>Relation</b>	Restriction in relation to the setting. Valid for and/or the financial interest
<b>From date</b>	Validity period of the overhead - starting date
<b>To date</b>	Validity period of the overhead - final date
<b>From Amount*</b>	Amount-dependent overhead - initial value
<b>To Amount*</b>	Amount-dependent overhead - final value
<b>Amount of overhead</b>	Value, which is used in the formula with the variable ZUS
<b>Continue searching</b>	Should further overheads be found? The found values are added.

\* Only for costing row types **Overhead for BOM** and **asset overhead for BOM**



**Example of use for time and quantity restriction:** Changes, for example in the material overhead rate, can be variably created (time-dependent). In the costing the valid material overhead is determined by the costing date. In this way the calculations can be simulated by the costing date, say for the subsequent year.

## 6 Calculation schema

The calculation schemas are managed in the form **calculation schema**.

### Register overview

Calculation scheme 050-300 , Scheme name Standardkalk ohne Zuschläge...

Overview General Other

✓ Scheme num... ↑	Scheme name	Calculation type	Extra charges modifiable
050-100	Standardkalk ohne Zuschläge (bereinigt)	Calculation	
050-200	Standardkalk mit Zuschlägen	Calculation	✓
✓ 050-300	Standardkalk ohne Zuschläge (bereinigt)	Calculation	
C-000000348	Standardkalk mit Zuschlägen	Calculation	✓
C-000000388	Kalk für Test's mit WerteFI-Zuschlägen als Ele...	Calculation	✓

+ New Delete Up Down

Overview General

✓ Variable	Line name	Type	Only for fina...	Formula
✓ SumMaterial	Summe Materialkosten inkl. ...	Sub total		Material
Kosten_Einheit	Kosten pro Einheit	Sub total		SumHerstellkosten / Berechnungsmenge
VkPreis	Verkaufspreis / Einheit	Unit price		SumTotal / Berechnungsmenge
Preis_PrEinheit_EP	Preis pro Preiseinheit EP	Sub total		SumTotal / Berechnungsmenge * Preiseinheit_
VKPreis_1000	Verkaufspreis / 1000 Einheit...	Sub total		SumTotal / Berechnungsmenge * 1000

<b>Schema number</b>	Unique identification of the calculation schemas. Several calculation schemas with different calculation basis can be managed. During the costing calculation a valid schema must be selected.
<b>Schema name</b>	Designation/Description of the calculation schema.
<b>Calculation Type</b>	The calculation type has no functionality. The field can be used for the sorting and filtering of calculations.
<b>Modifiable overheads</b>	Controls whether the overheads can be modified during the costing calculation.



(i) *General Tab*

In the tab **General** the pre-set/defined values can be managed per calculation schema. Depending upon requirements it can be controlled by the authorization management, whether the calculation user is authorized to change the parameter setting during costing calculation. The fields within the area **Basis, Assemblies, purchased items, Quantity basis** and **Result** override the values of the parameter setting.

Calculation scheme 050-300 , Scheme name Standardkalk ohne Zuschläge...

Overview **General** Other

BASIS	PURCHASED ITEMS	RESULT
Extra charges modifiable No <input type="checkbox"/>	Base price Calculated price	SALES ORDER LINE Transfer to sales line Yes <input type="checkbox"/>
Trade agreements Yes <input type="checkbox"/>	Search strategy Version	CALCULATED PRICE Transfer as calculated price
Include also discount	Version	Activate

+ New Delete Up Down

Overview **General**

Variable	Line name	Type	Only for fina...	Formula
<input checked="" type="checkbox"/> SumMaterial	Summe Materialkosten inkl. ...	Sub total		Material
Kosten_Einheit	Kosten pro Einheit	Sub total		SumHerstellkosten / Berechnungsmenge
VkPreis	Verkaufspreis / Einheit	Unit price		SumTotal / Berechnungsmenge
Preis_PrEinheit_EP	Preis pro Preiseinheit EP	Sub total		SumTotal / Berechnungsmenge * Preiseinheit_
VKPreis_1000	Verkaufspreis / 1000 Einheit...	Sub total		SumTotal / Berechnungsmenge * 1000

<b>Basis</b>	see 4.1.2 Basis
<b>Resources costs</b>	see 4.1.3 Resources costs
<b>Assemblies</b>	see 4.1.4 Assemblies
<b>Purchased items</b>	see 4.1.5 Purchased items
<b>Quantity basis</b>	see 4.1.6 Quantity basis
<b>Result</b>	see 4.1.7 Result
<b>Protection</b>	see 4.1.8 Protection

(ii) *Others Tab*

Calculation scheme FLEXCAL-000000012 , Scheme name Kopie von Standardkalk ohne Zuschläge (bereinigt)

OVERVIEW GENERAL **OTHER**

SYSTEM

Created date and time	Created by	Modified date and time
7/12/2017 09:05:14 AM	ava1	7/12/2017 09:05:14 AM
	Modified by	
	ava1	



<b>Creation date and - time</b>	Creation date with timestamp as well as modification date with timestamp are displayed.
<b>Created by</b>	User, who creates the calculation schema
<b>Modification date and - time</b>	Modification date with timestamp as well as modification date with times- tamp are displayed.
<b>Changed by</b>	User, who changed the calculation schema recently.

## 6.1 Schema items

### (iii) Tab overview

Calculation scheme 050-300 , Scheme name Standardkalk ohne Zuschläge (bereinigt)

+ New Delete Check scheme Copy scheme

OVERVIEW GENERAL OTHER

✓	Scheme number ↑	Scheme name	Calculation type	Extra charges modifiable
	050-100	Standardkalk ohne Zuschläge (bereinigt)	Calculation	<input type="checkbox"/>
	050-200	Standardkalk mit Zuschlägen	Calculation	<input checked="" type="checkbox"/>
✓	050-300	Standardkalk ohne Zuschläge (bereinigt)	Calculation	<input type="checkbox"/>
	C-000000348	Standardkalk mit Zuschlägen	Calculation	<input checked="" type="checkbox"/>
	C-000000388	Kalk für Test's mit WerteFI-Zuschlägen als Ele...	Calculation	<input checked="" type="checkbox"/>
	FLEXCAL-000000001	Demo Scheme	Calculation	<input checked="" type="checkbox"/>

+ New Delete Up Down

OVERVIEW GENERAL

✓	Variable	Line name	Type	Only for final product	Formula
	Berechnungsmenge	Berechnungsmenge	Sub total	<input type="checkbox"/>	MENGE
	Preiseinheit_EP	Preiseinheit Einstandspreis	Sub total	<input type="checkbox"/>	InventTableModule::find(key,ModuleInventPurchSales::Invent).PriceUnit
	Material	Materialkosten (Rohmaterial)	Material costs	<input type="checkbox"/>	
	Fe_Stk	Fertigung Stückkosten	Production costs - unit	<input type="checkbox"/>	
	Fe_tr	Fertigung Rüsten	Production costs - setup	<input type="checkbox"/>	
	Fe_ta	Fertigung Ausführen	Production costs - process	<input type="checkbox"/>	
	SumFertigung	Summe Fertigungskosten	Sub total	<input type="checkbox"/>	Fe_Stk + Fe_ta + Fe_tr
	HalbFabr	Halbfabrikate (Baugruppen)	Semifinished products	<input type="checkbox"/>	
	SumHerstellkosten	Herstellkosten	Sub total	<input type="checkbox"/>	SumFertigung + Material + HalbFabr
	SumSelbstkosten	selbstkosten	Sub total	<input type="checkbox"/>	SumHerstellkosten
	SumTotal	SummeTotal	Total	<input type="checkbox"/>	SumSelbstkosten
	SumMaterial	Summe Materialkosten inkl. Zuschlag MGK	Sub total	<input type="checkbox"/>	Material
	Kosten_Einheit	Kosten pro Einheit	Sub total	<input type="checkbox"/>	SumHerstellkosten / Berechnungsmenge
	VkPreis	Verkaufspreis / Einheit	Unit price	<input type="checkbox"/>	SumTotal / Berechnungsmenge
	Preis_PrEinheit_EP	Preis pro Preiseinheit EP	Sub total	<input type="checkbox"/>	SumTotal / Berechnungsmenge * Preiseinheit_EP
	VkPreis_1000	Verkaufspreis / 1000 Einheiten	Sub total	<input type="checkbox"/>	SumTotal / Berechnungsmenge * 1000

<b>Variable</b>	Unique identification of the costing row
<b>Line name</b>	The description is read from the costing row
<b>Type</b>	The costing row type is read from the costing row
<b>Only for final product</b>	Flag controls whether the schema item should only be used for the final product (e.g. administrative and distribution costs overheads)



<b>Formula</b>	Read from the costing row and can be overwritten. For the formula calculation with overhead lines the variable <b>ZUS</b> can be freely inserted and in all formula-authorized lines the variable <b>MENGE</b> can be freely inserted (compare clarifications for the formula definition).
----------------	--

The sequence of the schema items can be changed by the buttons **Upward** and/or **downward**.

Schema items are selected and taken over from the existing costing row pool. Per Schema item/costing row a row result is computed as interim result. The interim result per costing row can be used in the following schema items (through the field variable) for further costing. The costing calculation is done sequentially in the calculation schema from row 1 to 99999. It is important that the logical structure is considered.

The overhead values are not managed in the calculation schema. Proportional or fixed overheads are copied directly from the costing row pool during the costing calculation. Depending upon processing, overhead numbers for the costing calculation can be customized, without master data being changed.

## 6.2 Functions in the form calculation schema

### Check schema

With this function the essential elements of a calculation schemas can be checked for their correctness.

### Copy schema

Using the button **Schema kopieren (copy schema) schema, an** existing calculation schema can be copied into a new schema.

## 7 Structure of the calculation

Avanade **Flexible Calculation** is a pure preliminary costing. The value flow in Microsoft Dynamics 365 for Finance and Operations provides the Application of the Standard manufacturing costs calculation, which is used as pre- and final costing at level item stock (BOM calculation) and production final costing.

The structure the standard production cost calculation and Avanade module Flexible Calculation, should usually be harmonized up to the determination of production costs (HKO). The result of the calculation(s) can be used for the valuation of the stock.



## 7.1 Valuation of the production

The valuation of the production controls the operation data of the work plan.

### 7.1.1 Cost groups

In the form **cost groups (production module)** the groups can be defined/ be allocated with those Materials, cost categories for work plan operations and calculation formulas for indirect costs. The definition of the cost groups is used mainly for the standard production costs calculation in Dynamics AX. For Flexible Calculation the

The screenshot shows the 'Cost groups' configuration form. On the left, a list of cost groups is displayed, with 'Out-Test' (Test-Outsourcing) selected. The right pane shows the configuration for the selected cost group. The 'General' section includes 'Cost group type' (Direct outsourcing), 'Behavior' (Variable cost), and 'Default' (Yes). The 'Profit' section includes a table with columns 'Profit-setting' and 'Profit percentage'.

Profit-setting	Profit percentage
Standard	0.00
Standard	5.00
Profit 1	
Profit 2	
Profit 3	

Cost group is only relevant, if a standard price per cost category and cost group should be managed.

The cost groups are defined first for the creation of the calculation rates. Optionally it can be assigned to a cost group "asset specifications- percentage rates", so that a selling price can be suggested for a produced Product during the production costs calculation, which are based on the Cost plus premium approach.

### 7.1.2 Cost category

The basis for the valuation of the production is created in the form, **cost category (module production)** valuation.



000065 : SPEAKER PRO KIT  
Route details : 000065

✓	Oper. No.	Priority	Operation	Scrap percentage	Accumulated	Next	Link type	Hourly rate / piecework rate
	10	Primary	Packing	0.00	1.00	0	All	

+ New Delete Applicable resources Maintain resource requirements

OVERVIEW GENERAL **SETUP** TIMES RESOURCE LOAD RESOURCE REQUIREMENTS DESCRIPTION

CONSUMPTION CALCULATION COST CATEGORIES

Formula: Standard Setup: Polishing

Factor: 1.00 Run: Polishing

Costing resource: 1111 Quantity: Car Audio

The cost category is allocated in the work plan for setup costs, the processing costs and/or unit cost prices and (if necessary in combination with the cost group) is the basis of production costs determination in Dynamics 365 for Finance and Operations production cost calculation and in the Avanade Flexible Calculation.

Save + New Delete CATEGORY SETUP OPTIONS

CATEGORY SETUP

Setup Transactions Project control  
Validation Committed costs Price  
Function Forecast

Car Audio  
Car Audio Install

Cutting  
Cutting

Packinging  
Packinging

PI-1  
Burden cost

**Polishing**  
Polishing

Q&A  
Quality & Assurance

Usage  
Use in Project  
No

Production  
Category: Polishing Cost price: 8.00 Worker: Cost group: L3

Ledger postings

ACCOUNTS - PHYSICAL  
Estimated manufacturing cost absorbed: 600500

ACCOUNTS - FINANCIAL  
Manufacturing cost absorbed: 600500

Estimated cost of manufacturing consu...: 150200  
Cost of manufacturing consumed, WIP: 150100

With the button **price** the form for the manufacturing valuation of Avanade Flexi Kalk can be started. The valuation of the manufacturing is done per category, cost model (version) and location.

POLISHING : L3  
Cost category price

Filter

✓	Status	Version	Name	Site	Price	From date	Blocked
	Current active	10	Current fiscal period	1	8.00	1/20/2012	✓

### 7.1.3 Final costing versions

In the form **final costing versions**, the cost models can be administered as valuation models of the manufacturing for the calculation.



### Costing version setup

Filter

OVERVIEW GENERAL RECORDING CALCULATION

Costing type	Version ↑	Name	Block	Block activation	Last activation	Last update
Standard cost	10	Current fiscal period	No	No	1/20/2016	6/22/2017
Planned cost	20	Current fiscal period	No	No	1/11/2016	6/22/2017
Standard cost	30	Next fiscal period	No	Yes		1/15/2016
Planned cost	40	mynewcalc	No	Yes		

Examples of valuation models are:

- Simulation subsequent year
- Partial manufacturing costs
- Full manufacturing costs

### Costing version setup

Filter

OVERVIEW GENERAL RECORDING CALCULATION

**IDENTIFICATION**      **BLOCKING POLICIES**      **MODEL**

Version: 10  
 Name: Current fiscal period  
 Block changes: No  
 Block activation: No  
 Costing type: Standard cost  
 Last activation: 1/20/2016  
 Last update: 6/22/2017

### Costing version setup

Filter

OVERVIEW GENERAL RECORDING CALCULATION

**VALID FOR**      **VERSION VALUES**      **ALLOW PRICE TYPE**

Incl. in unit price: Yes  
 From date: 1/1/2016  
 Site:   
 Recording restriction: Yes  
 Purchase price: Yes  
 Round off: No  
 Cost price: Yes  
 Sales price: No  
 Calculated price: No  
 Simulated price: No

<b>Block Changes</b>	Specify, whether pending costs can be managed, deleted and computed in the final costing version.
<b>Block Activation</b>	Specify whether pending costs can be activated in the final costing version.
<b>Allow Type of price</b>	Which price types are to be approved for the final costing version/cost model. The settings facilitate the Overhead adding of cost data sets to Products: -> <i>Purchase price, cost price, selling price, calculation price, simulation price</i>



## 7.1.4 Route group

The screenshot displays the Dynamics 365 Operations interface for configuring a route group. The breadcrumb navigation shows 'Production control > Setup > Routes > Route groups'. The left-hand navigation pane lists several route group types: Discrete (Discrete manufacturing), Flexi (Flexi IFJ), Proc (Process route group), Sfc (Shop Floor Control Routing Group - selected), and Std (Standard route group). The main configuration area for the 'Sfc' group includes:

- General:** Fields for 'Route group' (Sfc) and 'Name' (Shop Floor Control Routing Gro...).
- ESTIMATION AND COSTING:** 'Setup time' (Yes/No), 'Run time' (Yes/No), and 'Quantity' (No).
- AUTOMATIC ROUTE CONSUMPTION:** 'Setup time' (Yes/No) and 'Quantity' (Yes/No).
- FEEDBACK:** 'Report operation as finished' (No).
- Setup Table:**

Route/job type	Activation	Job management	Working time	Capacity
Queue before	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setup	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Overlap	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Transport	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Queue after	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Using the route group, one controls, which individual processes flow into the calculation. setup time, operating time and quantity are possible.

## 7.2 Valuation of the material

The valuation of the material used is administered in the forms **released products; Manage costs->item price** and **commercial agreements**.

The material used can be valued as follows (base price):

<b>Commercial agreement</b>	Purchase prices
<b>Product selling price</b>	Product and Information Management -> Products -> Released Products -> Manage costs -> item price -> type of price: Selling price. If no price is found, then the price of Product and Information Management -> Sales -> Price is considered.
<b>Product cost price</b>	Product master->Manage costs->item price->type of price: Costs. If no price is found, then the price of Product master->area sales->price is considered.
<b>Product purchase price</b>	Product master->Manage costs->item price->type of price: Purchase price. If no price is found, then the price of Product master->Manage area costs -> Preis is considered.
<b>Last purchase price</b>	The last purchase price booked with a purchase invoice (incoming invoice)
<b>Calculation price</b>	Product master->Manage costs->item price->type of price: Calculation price
<b>Simulation price</b>	Product master->Manage costs->item price->type of price: Simulation price
<b>Backbilling group</b>	The price search is accomplished in accordance with the calculation groups (standard functionality of Dynamics AX). For Parametrization of the calculation group see 7.2.1 calculation group.

The cost group (final costing) is consulted (used) for the classification of the calculation result. Besides the calculation report can be listed in the calculation report.

RELEASED PRODUCT DETAILS  
M0004 : Crossover

General

Purchase

**TRADE AGREEMENTS**  
View trade agreements  
Create trade agreements  
Royalty

**PRICES**  
Price: 27.25  
Price quantity: 1.00

**DISCOUNTS**  
Total discount: Yes

**Sell**

**SALES ORDER**  
Unit: ea  
Overdelivery: 0.00  
Underdelivery: 0.00  
Intercompany stopped: No

**ADMINISTRATION**  
Commission group

**TAXATION**  
Item sales tax group: AU/VI

**PRICE UPDATE**  
Sales price model: None  
Base price: Purchase price  
Contribution ratio: 0.00  
Charges percentage: 0.00  
Date of price

**BASE SALES PRICE**  
Price: 0.00  
Price quantity: 1.00

**CHARGES**  
Price charges: 0.00

**DISCOUNTS**  
Total discount: Yes

**INSTALLMENTS**  
Installment eligible: No

**PRICE ADJUST**  
Allow price adjust: No

**CONTINUITY**  
Continuity schedule ID  
Event duration: 0

**SELL DATES**  
Sell start date  
Sell end date

**ITEM REBATE GROUP**  
Item rebate group

**FREIGHT ALLOCATION**  
Freight allocation group



Manage costs

**POSTING**  
Item group: AudioRM

**COSTING**  
Cost group: M1  
Use cost price by variant: No

**PRICE UPDATE**  
Latest cost price: No  
Date of price: 1/1/2012

**PRICES**  
Unit: ea  
Price: 27.80  
Price quantity: 1.00

**CHARGES**  
Price charges: 0.00  
Charges quantity: 1.00  
Incl. in unit price: Yes

**ABC CLASSIFICATION**  
Value: None  
Margin: None

Revenue: None  
Carrying cost: None

In the form **item price** pending and active costs can be administered per price type, version and location.

Navigation: Save, New, Delete, Calculation details, PRODUCT, PURCHASE, SELL, MANAGE INVENTORY, ENGINEER, PLAN, MANAGE PROJECTS, MANAGE COSTS, RETAIL, GENERAL, SETUP, OPTIONS

SET UP: **Item price** (highlighted), COST TRANSACTIONS, STANDARD COST TRANSACTIONS, COSTING

RELEASED PRODUCT DETAILS  
M0004 : Crossover

M0004 : CROSSOVER  
Item price

PENDING PRICES | ACTIVE PRICES

Filter: [ ] Show latest only

Costing type	Price type	Version	Name	Site	Price	Price quantity	Price charges	Charges quantity	Incl. in unit price	Unit	Activation date	Blocked	Calculated	Log
Standard cost	Cost	10	Current fiscal period	1	27.80	1.00		1.00	✓	ea	1/19/2012	✓	✓	

### 7.2.1 Calculation group

The calculation group is created per Product (approved (released) products->developers) and used for the standard Dynamics AX manufacturing costs calculation. By assigning the calculation groups to Products it can be specified, how a starting/selling price for the components classified in the calculation group should be charged for calculation. Beyond that the conditions can be configured for warnings, which are indicated with the manufacturing costs calculation, if these components are possible sources of error in calculation.

**Engineer** (highlighted)

**BILL OF MATERIALS**  
BOM unit: ea  
Constant scrap: [ ]  
Variable scrap: [ ]

Level: 2  
Phantom: No  
Auto-report as finished: No

**MEASUREMENT**  
Height: [ ]  
Width: [ ]

Depth: [ ]  
Density: [ ]

**PRODUCTION**  
Production pool: [ ]  
Production group: [ ]  
Property: [ ]

**CALCULATION**  
Calculation group: Handel (highlighted)

Arrival: No  
Flushing principle: Start  
**FORMULA PLANNING**  
Production type: None  
Planning formula: [ ]



## Calculation groups

Handel

---

MC1  
Material Cost 1

---

STD  
STD

<b>Calculation group</b>	<b>Name</b>	
STD		STD

---

**General**

<b>COST PRICE</b>	<b>SALES PRICE</b>	<b>WARNINGS</b>
Cost price model	Sales price model	<input type="checkbox"/> No BOM
<input type="text" value="Item cost price"/>	<input type="text" value="Cost group"/>	<input type="checkbox"/> No route
Alternate cost price model	<b>OTHER</b>	<input type="checkbox"/> No resources
<input type="text" value="Item cost price"/>	Stop explosion	<input checked="" type="checkbox"/> No consumption
	No <input type="checkbox"/>	<input checked="" type="checkbox"/> No cost price
		Max. age of cost price
		<input type="text" value="0"/>
		Min. contribution margin
		<input type="text" value="0.00"/>

<b>Cost price model</b>	<p>The primary data source for the price calculation via the calculation group. The following options are available:</p> <ul style="list-style-type: none"> <li>• <b>Product cost price</b> Product master-&gt;Manage costs-&gt;item price-&gt;type of price: Costs</li> <li>• <b>Product purchase price</b> Product master-&gt;Manage costs-&gt;item price-&gt;type of price: Purchase price</li> <li>• <b>Commercial agreement</b> <b>The</b> purchase price from the commercial agreement for the Product and the location is used (if one works with the function for multiple locations).</li> <li>• <b>Stores price</b> <b>The</b> current stock value for the Product is used, to compute the cost price per unit. A cost price per unit is computed only if the booked quantity and the physical quantity are greater than zero. Note that the</li> </ul>
	Physical quantity depends on the parameter physical value including the stock control group.
<b>Alternative cost price model</b>	An alternative data source for the price calculation, if the primary source is missing. For example, the element costs are used, if a commercial agreement is missing. Available options in accordance with <i>cost price model</i> .
<b>Selling price model</b>	<ul style="list-style-type: none"> <li>• <b>Cost group</b> <b>The</b> selling price is computed based on the cost price and the profit default percentage from the cost group.</li> <li>• <b>Product selling price</b> Product master-&gt;Manage costs-&gt;item price-&gt;type of price: Selling price.</li> </ul>
<b>Finish Bill explosion</b>	If the flag <i>Stücklistenauflösung beenden (Finish bill explosion)</i> is set, the component is treated like a purchased part.
<b>Warnings</b>	Within the area warnings a plausibility checks can be made, e.g. whether a warning should be set, if no BOM has been assigned to this Product.

## 8 Execution of the calculation



## 8.1 Conditions

The execution of the calculation takes place depending upon the requirement of single or multi-stage. The bill of materials used (BOM) and the planned manufacturing (route) are exploded and computed in a multi-level calculation over the whole product structure of an Product.

### Overview of calculation-relevant master data:

<b>Product master</b>	<p>Prices within the areas <i>Manage selling, buying and costing</i></p> <p>Area <i>Manage costs</i>-&gt;<i>final costing</i>-&gt;<i>cost group</i></p> <p>Area <i>developer</i>-&gt;<i>manufacturing costs calculation</i>-&gt;<i>calculation group</i> (at least standard calculation group should be present)</p> <p><i>standard Order settings</i> -&gt;<i>Tab Stock</i>-&gt;<i>stock quantities</i></p> <p><i>Tab purchase</i>-&gt;<i>commercial agreements</i> (possible only if purchase price is selected as price base and a price in the commercial agreements is stored for the Product in combination with the main supplier.)</p>
<b>BOM</b>	<p>Definition of the product structure. In the <i>BOM item</i>-&gt;<i>Tab general</i> the flag checks the <b>calculation</b>, whether the BOM item should be considered for the calculation.</p>
<b>Route (Route)</b>	<p>Definition of Te, tr, teB, trB per manufacturing stage in the tab <b>quantities</b>.</p> <p>Definition of the routing group and the cost category for setup costs (tr, trB) processing cost (Te, teB) and unit cost prices.</p> <p>Route group</p>

The structure of the Flexible Calculation is defined with the definition of the costing rows, the calculation schema, cost models and the settings in the form **parameter**. The basis for the costing calculation is thus accomplished.

## 8.2 Form calculations

In the form **calculations the** actual calculation per Product can be implemented.

The screenshot displays the SAP Flexible Calculation form for calculation 050-100 : D0003. The form is organized into several sections:

- General:** Contains fields for Calculation number (FLEXCAL-000...), Quantity (35.00), Calculation date (6/12/2017), Execution date (6/12/2017), Status (Calculated), Item (StandardSpeaker), and Dimension number (000021).
- ITEM:** Includes Is Calculation product (No), Item number (D0003), and Product name (StandardSpeaker).
- SITE:** Shows Site (1).
- PRODUCT DIMENSIONS:** Includes Configuration and Size fields.
- BOM/ROUTE:** Shows BOM (D0003BOM) and Route number (000002).
- RESULT:** Displays Calculated price (161.00) and Simulation price (0.00).
- Calculation settings:** Includes Calculation settings and Calculation result sections.
- Other:** Contains Reference type (Product), Reference number (D0003), and Item reference (D0003).

### General information



(iv) Calculation

General		
<b>CALCULATION</b>	<b>Quantity</b>	<b>ITEM</b>
Calculation number FLEXCAL-000...	35.00	Is Calculation product No
Price scale number	6/12/2017	Item number D0003
Calculation type Calculation	6/12/2017	Product name StandardSpeaker
Scheme number 050-100	Status Calculated	Dimension number 000021

<b>Calculation number</b>	Unique identification of the calculation. The number is updated during the price transfer into the Product master in the field calculation number for identification. The allocation of numbers is regulated in the form parameter settings tab numbers ranges.
<b>Price scale number</b>	Unique identification, to identify associated calculations.
<b>Type of calculation</b>	The type of calculation has no functionality. The field can be used for the sorting and filtering of calculations.
<b>Schema number</b>	A defined calculation schema is selected.
<b>Quantity</b>	<p>The lot size of the calculation is prepared as follows from the fields minimum order quantity, maximum order quantity or standard order quantity in the standard order settings of the Product master (•tab stock quantities):</p> <ol style="list-style-type: none"> <li>1. Standard order quantity</li> <li>2. Minimum order quantity</li> <li>3. If standard quantity and minimum quantity are created in the Product master, the larger of the two quantities is used as calculation lot size.</li> </ol> <p>The maximum order quantity is not used for the processing of the calculation lot size. The calculation lot size can be overwritten in the field quantity.</p> <p>For a reference of order for production, order item or sales quotation</p>
<b>Calculation date</b>	The scope of time-dependent prices and Overheads will be determined for the calculation by means of the calculation date. The used BOM version and route version may depend upon the calculation date.
<b>Execution date</b>	Date on that the calculation was done.
<b>Status</b>	Status of the calculation: created/computed
<b>Changed by (visible only in the overview)</b>	The user, who made the last change at the calculation.

(i) Product

**ITEM**

Is Calculation product  
No

Item number  
D0003

Product name  
StandardSpeaker

Dimension number  
000021

<b>Actual calculation product</b>	If master data are copied for the calculation, then this flag is set. It therefore concerns a calculation product (virtual product). See <i>0 Area calculation master data (only for copied master data)</i>
<b>Product number</b>	Product number, which should be computed.
<b>Product name</b>	Product name is displayed.
<b>Dimensions nr.</b>	Displays the used storage dimension.

(ii) Location and product dimensions

**SITE**

Site  
1

**PRODUCT DIMENSIONS**

Configuration  
[Redacted]

Size  
[Redacted]

<b>Location</b>	For which location the calculation is valid. Necessary information
<b>Variant, size, color, style</b>	Product dimension(s) can be selected and considered for calculation.

(iii) BOM/Route

**BOM/ROUTE**

BOM  
D0003BOM

Route number  
000002

<b>Sub BOMs</b>	The BOM version can be selected, which is to be used for the calculation. The system proposes the currently valid BOM version (valid from, quantity, active, and calculation date).
-----------------	---

<b>Subordinated Route</b>	The route routing plan can be selected, which is to be used for the calculation. The system proposes the currently valid route version (valid from, quantity, active, and calculation date).
---------------------------	--



(iv) Result

<b>RESULT</b>	
Calculated price	161.00
Simulation price	0.00

<b>Calculation price</b>	Final result of the calculation.
<b>Simulation price</b>	Final result of simulation.

8.2.2. Calculation settings

**Basis and resources costs** (see 4.1.2 basis and 4.1.3 resources costs)

Calculation settings	
<b>BASIS</b>	<b>RESOURCE COSTS</b>
Extra charges modifiable	Version
No <input type="checkbox"/>	10
Trade agreements	
Yes <input type="checkbox"/>	
Include also discount	
No <input type="checkbox"/>	

**Assemblies and purchased items** (see 4.1.4 Assemblies and 4.1.5 purchased items)

<table border="1"> <tr> <td><b>RESOURCE COSTS</b></td> <td>Search strategy</td> <td>Search strategy</td> </tr> <tr> <td>Version</td> <td>Active</td> <td>Active</td> </tr> <tr> <td>10</td> <td></td> <td></td> </tr> <tr> <td><b>ASSEMBLIES</b></td> <td>Version</td> <td>Version</td> </tr> <tr> <td>Explode assemblies</td> <td></td> <td></td> </tr> <tr> <td>No <input type="checkbox"/></td> <td>Alt. std. price</td> <td></td> </tr> <tr> <td></td> <td>No <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Base price</td> <td></td> <td></td> </tr> <tr> <td>According to calculation group</td> <td></td> <td></td> </tr> </table>	<b>RESOURCE COSTS</b>	Search strategy	Search strategy	Version	Active	Active	10			<b>ASSEMBLIES</b>	Version	Version	Explode assemblies			No <input type="checkbox"/>	Alt. std. price			No <input type="checkbox"/>		Base price			According to calculation group			<table border="1"> <tr> <td colspan="2"><b>PURCHASED ITEMS</b></td> </tr> <tr> <td>Base price</td> <td>Search strategy</td> </tr> <tr> <td>According to calculation group</td> <td>Active</td> </tr> <tr> <td>Search strategy</td> <td>Version</td> </tr> <tr> <td>Active</td> <td></td> </tr> <tr> <td>Version</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Alt. std. price</td> <td></td> </tr> <tr> <td>No <input type="checkbox"/></td> <td></td> </tr> </table>	<b>PURCHASED ITEMS</b>		Base price	Search strategy	According to calculation group	Active	Search strategy	Version	Active		Version				Alt. std. price		No <input type="checkbox"/>	
<b>RESOURCE COSTS</b>	Search strategy	Search strategy																																												
Version	Active	Active																																												
10																																														
<b>ASSEMBLIES</b>	Version	Version																																												
Explode assemblies																																														
No <input type="checkbox"/>	Alt. std. price																																													
	No <input type="checkbox"/>																																													
Base price																																														
According to calculation group																																														
<b>PURCHASED ITEMS</b>																																														
Base price	Search strategy																																													
According to calculation group	Active																																													
Search strategy	Version																																													
Active																																														
Version																																														
Alt. std. price																																														
No <input type="checkbox"/>																																														

**Definitions of quantity basis** (see 4.1.6 quantity basis)

<b>QUANTITY BASE</b>
Final product
None
Assemblies
Standard/Minimum

These settings check the consideration of the lot quantities from the Product master during the calculation of the return cost (separated by final products and semi-finished products).

8.2.3 Calculation result

**Calculation result and security** (see 4.1.7 result and 4.1.8 security)



Calculation result

SALES ORDER LINE	Version	Version	Version	Version
Transfer to sales line	10	10	10	10
No <input type="checkbox"/>	Activate	Activate	Activate	Activate
	No <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
CALCULATED PRICE	SIMULATION PRICE	COST PRICE	SALES PRICE	ZERO-PROTECTION
Transfer as calculated price	Transfer as simulation price	Transfer as invent price	Transfer as sales price	Do not overwrite with zero
No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	Yes <input type="checkbox"/>

### 8.2.4 Other

Other

REFERENCE	Reference number	Customer account
Reference type	D0003	
Product		Item reference
		D0003

<b>Type of reference</b>	Unique identification of the module, to which the calculation is assigned. Product/order for production/order item/ sales quotation
<b>Reference number</b>	Reference to the system document e.g.: Order number or production number.
<b>Receivable account</b>	Reference to debtor identification in system document of order or offer for sale.
<b>Product reference</b>	Reference to the calculated Product.

## 8.3 Functions in the form calculation table

MAINTAIN	NEW	CALCULATION		VIEW	CALCULATION BASE DATA	BOM	ATTACHMENTS
Edit	Calculation	Price calculation	Copy calculation	Result	Calculation product	Lines	Attachments
Delete		Reset calculation	Price scale	Dimensions	Calculation route table	Designer	
		Copy master data					

### 8.3.1 Administration area

#### Edit button

The settings of the selected calculation can be edited, if the calculation was not accomplished yet. Otherwise this must first be *reset* using the function **reset calculation**.

#### Delete button

The selected calculation(s) will be deleted.

### 8.3.2 New area

#### Calculation button

A new calculation is made based on the price calculation parameters.

### 8.3.3 Calculation area



## Price calculation area

The costing calculation is activated. As an alternate to the function "price calculation" in the form **calculations** the calculation can start from a customer offer, a customer order, a production order, the Product master or in the batch via the menu **periodical -> price calculation**.

The screenshot shows the SAP 'CALCULATION' form. The 'CALCULATION' menu is active, with 'Price calculation' highlighted. The form displays the following data:

- Calculations:** C-00000388 : D0003
- Calculation number:** 60.00
- Price scale number:** FLEXCAL-000...
- Calculation date:** [Empty]
- Execution date:** [Empty]
- Calculation type:** Calculation
- Scheme number:** C-00000388
- Is Calculation product:** No
- Item number:** D0003
- Product name:** StandardSpeaker
- Dimension number:** 000021
- Site:** 1
- Style:** [Empty]
- Configuration:** [Empty]
- Size:** [Empty]
- Calculated price:** 0.00
- Simulation price:** 0.00
- BOM/ROUTE:** D0003BOM
- Route number:** 000002

**Calculation settings:**

- BASIS:** Extra charges modifiable: Yes
- RESOURCE COSTS:** Version: 10
- ASSEMBLIES:** Explode assemblies: No
- SEARCH STRATEGY:** Active
- PURCHASED ITEMS:** Base price: According to calculation group
- QUANTITY BASE:** Final product: None, Assemblies: Standard/Minimum

After successful valuation the calculation is saved. A calculation can be valued only once. With renewed calculation the calculation must first *be reset* using the function **calculation reset** and if necessary deleted. A calculation can *be deleted* using the button delete or using the function **delete calculations** in the menu product calculation/ periodically. Further information about the calculation result is described in chapter 9 *calculation result*.

## Reset calculation result button

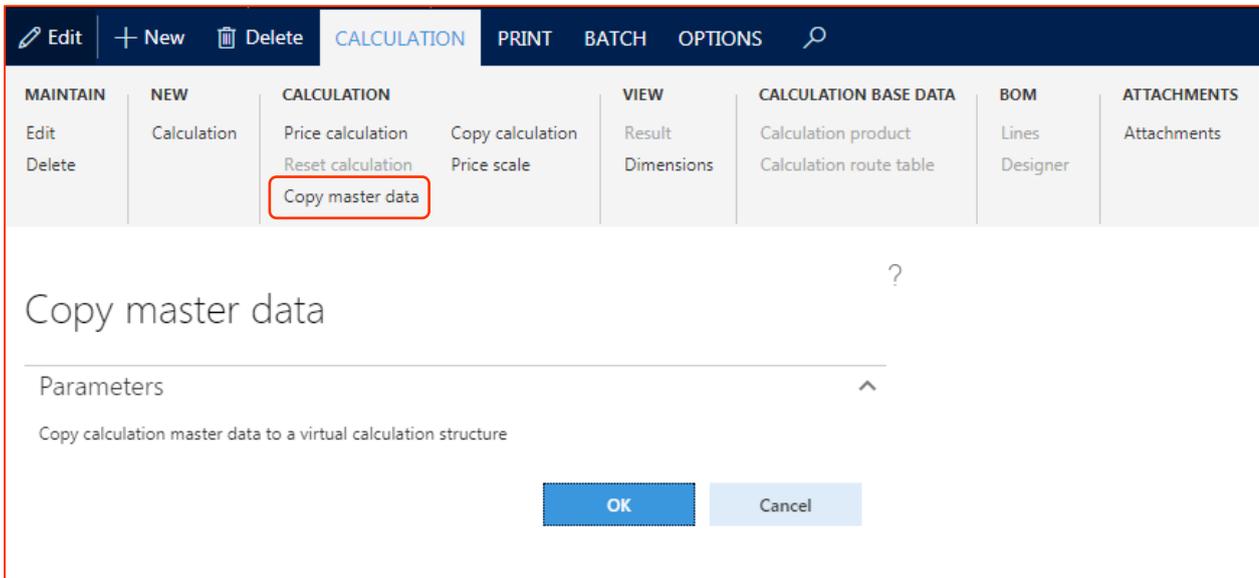
The calculation result can *be deleted* using the button **reset calculation**. The function enables a revaluation for the calculation.

The screenshot shows the SAP 'CALCULATION' menu. The 'CALCULATION' menu is active, and the 'Reset calculation' button is highlighted with a red box. The menu items are:

- MAINTAIN:** Edit, Delete
- NEW:** Calculation
- CALCULATION:** Price calculation, Copy calculation, Price scale, **Reset calculation**, Copy master data
- VIEW:** Result, Dimensions
- CALCULATION BASE DATA:** Calculation product, Calculation route table
- BOM:** Lines, Designer
- ATTACHMENTS:** Attachments

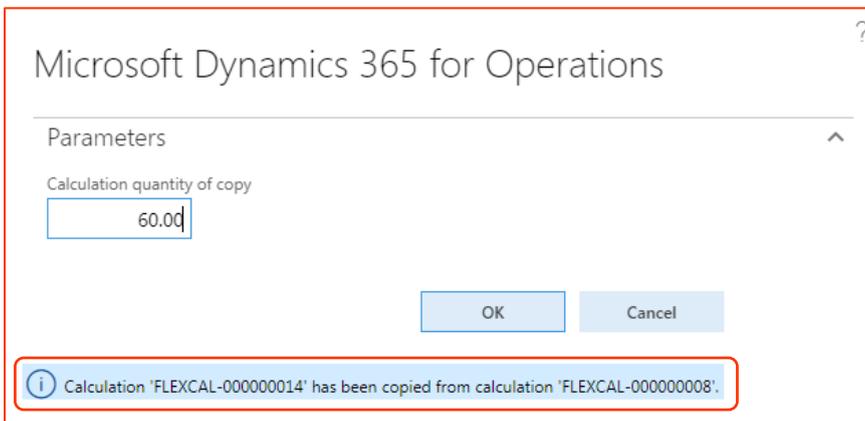
## Copy master data button

Using the button **copy master data** the Products, - route and BOM data are copied for the selected calculation in the calculation module (single-step).



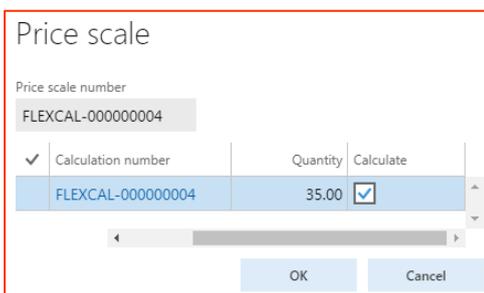
### Calculation copy button

An existing calculation can be copied using the button "**copy calculation**".



### Price scales button

Using the button **Price scale** quantity scale can be created for the calculation. A calculation result can be computed (**flag calculation**) per quantity scale.



### 8.3.4 Display area

#### Result button



In the form **calculations the** calculation can be seen using the button **result** (see chapter 9 *calculation result*).

### Dimensions button

Here the stock and back tracing dimensions can be displayed.

### 8.3.5 Calculation master data area (only for copied master data)

#### Calculation product button

The screenshot shows the Dynamics 365 Finance and Operations interface for a calculation product. The breadcrumb path is 'All Calculations > USMF'. The main title is 'CALCULATION PRODUCTS : SCHEME-0004 : CALCPROD-000004'. The product name is 'Mouse : Mouse'. The form is divided into several sections:

- General:** Includes fields for Product (Mouse), Item number (Mouse), Product name (Mouse), Search name (Mouse), Item type (Item), Unit (ea), and Identification (Calculation product number: CALCPROD-001).
- Calculation:** Includes the Calculation number (CALC-000000024).
- Groups:** Includes Item group (Consume) and Cost group.
- Purchase:** Includes Price (3.74), Price unit (1.00), and Vendor.
- Financial dimensions:** Includes BusinessUnit (002), CostCenter (007), Department (022), ItemGroup (CarAudio), and Project (000002).

The Product can be reworked at any time. The change is valid only for the current calculation (calculation number).



## Calculation route number button

The copied route can be reworked at any time. The change is valid only for the current calculation (calculation number).

Oper. No.	Priority	Operation	Run time	Process qty.	Next
10	Primary	Assembly	1.00	4.00	20
20	Primary	Testing	1.00	5.00	30
20	Secondary 1	TestOpr	1.00	5.00	30
30	Primary	Packing	1.00	15.00	0

### 8.3.6 BOM area (only for copied master data)

#### Button Items (lines)

The BOM can be reworked at any time. The change is valid only for the current calculation.

#### Button designer

#### Print area – result

Calculation number	Scheme number	Item number	Product name	Quantity
CALC-000000064	SCHEME-0007	per_SSet	Scooter Set	10,000.00
CALC-000000066	SCHEME-0001	IFJ_Item	IFJ_Item	1.00
CALC-000000067	SCHEME-0009	IFJ_Item	IFJ_Item	1.00
CALC-000000068	SCHEME-0007	per_SSet	Scooter Set	100.00
CALC-000000069	SCHEME-0007	per_SSet	Scooter Set	10,000.00
CALC-000000074	SCHEME-0007	per_SSet	Scooter Set	100.00
CALC-000000076	SCHEME-0007	per_SSet	Scooter Set	100.00
CALC-000000084	SCHEME-0007	Mouse	Mouse	20.00
CALC-000000085	SCHEME-0007	Mouse	Mouse	20.00
CALC-000000087	SCHEME-0003	Mouse	Mouse	2.00
CALC-000000088	SCHFMF-0010	D0023	Standard Speaker -...	5.00



## Calculation result button

### Calculation result

Parameters ^

Detailed  
Yes

Chart cost groups  
Yes

Destination ^

[Change](#)

Screen

Records to include ^

[Filter](#)

**CALCULATIONS**

Status  
Calculated

Calculation number  
CALC-000000109

Run in the background ^

[Recurrence](#) [Alerts](#)

Batch processing  
No

Task description

Batch group

Private  
No

Critical Job  
No

Monitoring category

Start date: 4/21/2018 (02:27:27 pm) (GMT) Coordinated Universal Time

<b>Detailed</b>	Displays the calculation result with details. (Entries with arrow - >)
<b>cost groups valuate</b>	A total is printed at the end of the report per cost group.
<b>Status</b>	Filter possibility as per the calculation status using the button <b><i>select</i></b>
<b>Calculation number</b>	Filter possibility as per calculations using the button <b><i>select</i></b>

## Calculation result

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<b>Calculation number</b>	CALC-000000109
<b>Item number</b>	D0003
<b>Product name</b>	StandardSpeaker
<b>Scheme number</b>	050-300

<b>Quantity</b>	40.00 ea
<b>Calculation date</b>	4/11/2018
<b>Calculated price</b>	34.47 USD
<b>Simulation price</b>	

Variable	Line name	Amounts calculated	Amounts simulated	Markup
Berechnungsmenge	Berechnungsmenge	40.00		
Preiseinheit_EP	Preiseinheit Einstandspreis	1.00		
Material	Materialkosten (Rohmaterial)			
->	M0001, Wiring Harness			
->	M0002, Mid-Range Speaker Unit			
->	M0003, Tweeter Speaker Unit			
->	M0004, Crossover			
->	M0007, Standard Cabinet			
Fe_Stk	Fertigung Stückkosten			
->	1211, Speaker assembly worker 1			
->	1225, Speaker test rig 1			
->	1221, Speaker test operator 1			
->	1222, Speaker packing worker 1			
Fe_tr	Fertigung Rüsten			
->	1211, Speaker assembly worker 1			
->	1225, Speaker test rig 1			
->	1221, Speaker test operator 1			
->	1222, Speaker packing worker 1			
Fe_ta	Fertigung Ausführen	1,378.67		
->	1211, Speaker assembly worker 1	1,000.00		
->	1225, Speaker test rig 1	80.00		
->	1221, Speaker test operator 1	32.00		
->	1222, Speaker packing worker 1	266.67		
SumFertigung	Summe Fertigungskosten	1,378.67		
HalbFabr	Halbfabrikate (Baugruppen)			
SumHerstellkosten	Herstellkosten	1,378.67		
SumSelbstkosten	selbstkosten	1,378.67		
SumTotal	SummeTotal	1,378.67		
SumMaterial	Summe Materialkosten inkl. Zuschlag			
Kosten_Einheit	Kosten pro Einheit	34.47		
VkPreis	Verkaufspreis / Einheit	34.47		
Preis_PrEinheit_EP	Preis pro Preiseinheit EP	34.47		
VKPreis_1000	Verkaufspreis / 1000 Einheiten	34,466.67		

Cost group	Name	Amount
L1	Packaging	266.67
L2	Assembly	1,000.00
L4	Q&A	112.00
M1	Electronic comp.	
M2	Cabinets comp.	
M3	Misc comp.	
M9	No costing sheet	
OVH2	Plant overhead	
OVH3	Material overhead	
OVH4	Labor overhead	

## BOM structure button



BOM structure

Parameters ^

Expand markups  
Yes

Chart cost groups  
Yes

Destination ^

[Change](#)

Screen

Records to include ^

[Filter](#)

CALCULATIONS

Status  
Calculated

Calculation number  
CALC-000000109

CALCULATION LINES

BOM level

Run in the background ^

Recurrence Alerts

Batch processing  
No

Task description  
BOM structure

Batch group  
▼

Private  
No

Critical Job  
No

Monitoring category  
▼

Start date: 4/21/2018 (02:43:45 pm) (GMT) Coordinated Universal Time

OK Cancel

<b>overheads explosion</b>	Displays the detailed information about the overheads from the schema. These are displayed in separate rows where applicable.
<b>Evaluate cost groups</b>	A sum per cost group is printed in the end the report. A total is printed at the end of the report per cost group
<b>Status</b>	Filter possibility as per the calculation status using the button <b>select</b>
<b>Calculation number</b>	Filter possibility as per the calculation using the button <b>select</b>
<b>BOM level</b>	The displayed levels can be configured for multi-level BOMs. Example: "1": displays levels 0 and 1



**BOM structure** Page 1 of 1  
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<b>Calculation number</b>	CALC-00000109	<b>Quantity</b>	40.00 ea
<b>Item number</b>	D0003	<b>Calculation date</b>	4/11/2018
<b>Product name</b>	StandardSpeaker	<b>Calculated price</b>	34.47 USD
<b>Scheme number</b>	050-300	<b>Simulation price</b>	

Level	Position	Item/Resource	Name	Cost group	Total consumption	Unit	Markup	Cost	Markup from schema	Amount
0	BOM	D0003	StandardSpeaker	M9	40.00	ea				1,378.67
1	Item	M0001	Wiring Harness	M3	40.00	ea				
1	Item	M0002	Mid-Range Speaker Unit	M1	40.00	ea				
1	Item	M0003	Tweeter Speaker Unit	M1	40.00	ea				
1	Item	M0004	Crossover	M1	40.00	ea				
1	Item	M0007	Standard Cabinet	M2	40.00	ea				
1	Human resource	1211	Speaker assembly worker 1							
1	Process costs	Assembly	Speaker assembly	L2	10.00	Hours		1,000.00		1,000.00
1	Machine	1225	Speaker test rig 1							
1	Process costs	Q&A	Speaker testing and calibration	L4	8.00	Hours		80.00		80.00
1	Human resource	1221	Speaker test operator 1							
1	Process costs	Q&A	Operating the speaker test and calibration environment	L4	3.20	Hours		32.00		32.00
1	Human resource	1222	Speaker packing worker 1							
1	Process costs	Packaging	Packing	L1	2.67	Hours		266.67		266.67
1	no calculation	Machine depreciation	Output unit based	OVH2						
1	no calculation	Internal logistics	% of cost	OVH3						
1	no calculation	Indirect labor cost	Rate per process time	OVH4						

Cost group	Name	Amount
L1	Packaging	266.67
L2	Assembly	1,000.00
L4	Q&A	112.00
M1	Electronic comp.	
M2	Cabinets comp.	
M3	Misc comp.	
M9	No costing sheet	
OVH2	Plant overhead	
OVH3	Material overhead	
OVH4	Labor overhead	

### 8.3.7 Batch area



+ New   Delete   Edit   Edit in grid   CALCULATION   PRINT <b>BATCH</b> OPTIONS   🔍										
<b>BATCH</b> Calculation batch Delete calculations										
CALCULATIONS CALCULATED <input type="text" value="Filter"/>										
✓	Calculation number ↑	Scheme number	Item number	Product name	Quantity	Price scale number	Modified by	Calculation date	Calculated price	Simulation price
	CALC-000000100	SCHEME-0007	IFJ_Package	IFJ_Package	25.00		ava2	3/26/2018	1,356.18	0.00
	CALC-000000101	SCHEME-0007	IFJ_Package	IFJ_Package	75.00		ava2	3/26/2018	1,351.70	0.00
	CALC-000000102	SCHEME-0007	IFJ_Package	IFJ_Package	400.00		ava2	3/26/2018	1,346.18	0.00
	CALC-000000103	SCHEME-0007	IFJ_Package	IFJ_Package	400.00		ava1	4/13/2018	837.63	0.00
	CALC-000000104	SCHEME-0009	IFJ_Package	IFJ_Package	1.00		ava1	4/13/2018	768.49	0.00
	CALC-000000105	SCHEME-0009	IFJ_Package	IFJ_Package	1.00		somil.karani	4/13/2018	418.49	0.00
	CALC-000000106	SCHEME-0007	IFJ_Package	IFJ_Package	50.00		ava1	4/19/2018	842.31	0.00
	CALC-000000107	SCHEME-0012	IFJ_Package	IFJ_Package	50.00		ava1	4/19/2018	1,657.95	0.00
	CALC-000000108	SCHEME-0012	D0001	MidRangeSpeaker	1.00		ava1	4/9/2018	165,104.11	0.00
✓	CALC-000000109	050-300	D0003	StandardSpeaker	40.00	CALC-000000109	vidyasagar.patnaik	4/11/2018	34.47	0.00

### Batch calculation Button

The function of the batch calculation is handled in chapter 8.4 *Batch calculation*.

### Delete calculation button

The function deletes calculations in accordance with the specified filter criteria.



## Delete calculations

Records to include ^

[Restore](#) [Filter](#)

CALCULATIONS	
Calculation date 2/14/2018	Scheme number
Item number	Calculation number
Modified by	Customer account
	Status Calculated

Run in the background ^

[Recurrence](#) [Alerts](#)

<div style="border: 1px solid #ccc; padding: 2px;">           Batch processing            Yes <input checked="" type="checkbox"/> </div>	Task description <input type="text" value="Delete calculations"/>
	Batch group <input type="text" value=""/>
	Private No <input checked="" type="checkbox"/>
	Critical Job No <input checked="" type="checkbox"/>
	Monitoring category <input type="text" value=""/>

Start date: 4/21/2018 (03:15:06 pm) (GMT) Coordinated Universal Time

## 8.4 Batch calculation

In the form **periodic->batch calculation** a costing calculation can be implemented for several Products. Using the "select" button the data volume for the calculation run can be restricted.



# Calculation batch

## Parameters

### SCHEME

Default schema  Use item schema  No

### PRODUCT DIMENSIONS

Calculate combined prices  
No

### BASIS

Trade agreements  
No   
Include also discount  
No

Calculation date

### RESOURCE COSTS

Version

### ASSEMBLIES

Explode assemblies  
No   
Base price  
  
Search strategy  
  
Version  
  
Alt. std. price  
No   
Search strategy  
  
Version

### PURCHASED ITEMS

Base price  
  
Search strategy  
  
Version  
  
Alt. std. price  
No   
Search strategy  
  
Version

### QUANTITY BASE

Quantity base  
  
Quantity base

### SALES ORDER LINE

Transfer to sales line  
No

### CALCULATED PRICE

Transfer as calculated price  
No   
Version  
  
Activate  
No

### SIMULATION PRICE

Transfer as simulation price  
No   
Version  
  
Activate  
No

### COST PRICE

Transfer as invent price  
No   
Version  
  
Activate  
No

### SALES PRICE

Transfer as sales price  
No   
Version  
  
Activate  
No

### ZERO-PROTECTION

Do not overwrite with zero  
No

## Records to include

Filter

### ITEMS

Item number

## Run in the background

Recurrence Alerts

### Batch processing

No

### Private

No

### Critical Job

No

Task description

Batch group

Monitoring category

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OK Cancel



<b>Standard Schema</b>	The standard calculation schema is used.
<b>Use schema of the Product master</b>	The calculation schema in the Product master is used for the costing calculation. If no calculation schema was entered in the Product, the standard schema will be used.
<b>Compute combination prices</b>	The calculation is implemented per Product dimension. If several Product dimensions are active, the calculation for all combinations is computed

\*\* All remaining parameters are described in chapter *8.2 calculations forms*.

## 9 Calculation result

The calculation is displayed in the form **calculation result** in a structural representation.

### 9.1 Overview tab

The structure of the display corresponds to the selected calculation schema. Total amounts and headings are marked in colors. In the **overview** tab the result of the selected item for each Products or assemblies is displayed on the right side. The allocation in machine, personnel, supplier, set-up, processing depends upon





050-100 : CALCPROD-000001  
Calculation result

Overview **Calculation lines** Simulation lines Calculation overview

✓	Li...	BOM...	Position	Item/Resource	Name	Cost group	Cost price per unit	Total consumpti...	Base for trade a...	Markup	Base for setup	Setup quantity	Unit	Cost	Markup from sc...	Amount
	1	0	BOM	CALCPROD-000001	StandardSpeaker	M9		100.00			100.00		ea		35,431.90	35,431.90
	2	1	Item	M0001	Wiring Harness	M3	3.93	200.00					ea	786.00		786.00
	3	1	Item	M0002	Mid-Range Speaker Unit	M1	78.99	200.00					ea	15,798.00		15,798.00
	4	1	Item	M0003	Tweeter Speaker Unit	M1	23.45	200.00					ea	4,690.00		4,690.00
	5	1	Item	M0004	Crossover	M1	27.80	200.00					ea	5,560.00		5,560.00

OPERATIONS	BOM/ROUTE	BASE PURCH PRICE	COST GROUPS		
Oper. No.	BOM	Base for trade agreements	✓ Cost group 1	Name	Amount
Operation	Route number	Vendor account	L1	Packaging	46.67
Priority	Calculation bom number	Purchase currency	L2	Assembly	195.00
Primary	CALCBOM-0...		L4	Q&A	280.00
Configuration	Calculation route number	Purch base price	M1	Electronic comp.	26,048.00
	CALCROUTE-...	0.00	M2	Cabinets comp.	4,000.00
Formula	Reference	Cash discount amount	M3	Misc comp.	786.00
Standard	0	0.00	M9	No costing sheet	35,431.90
Size		Discount percentage			
		0.00			
Color		Purch price			
		0.00			

<b>BOM level</b>	Displays the stage in the product structure.
<b>Item</b>	Unique identification of the item. Valid values are: <b><i>BOM, Product, service, machine, tool, personnel, supplier, setup, processing cost, unit cost prices, value flow of Overheads.</i></b>
<b>Product resources</b>	Unique identification of the computed Product, computed resources from the route or the used cost category from the route.
<b>Name</b>	Product name, resources name or name of the processing step.
<b>Cost group</b>	cost group assigned to the product (item) or to the cost category
<b>Cost price per unit</b>	Displays the basis of valuation used for calculation (cost category with re- sources, base price with Product/service in accordance to settings of the calculation).
<b>Total consumption</b>	Shows the quantity per calculation line, which is used based on appropriate costing calculation.

<b>Basis of commercial agreements</b>	What quantity is the basis for the selling price calculation in the commercial agreements?
<b>Overhead</b>	Determined overhead
<b>Basis of setup</b>	Shows the quantity basis for setup costs calculation in accordance with definition (see chapter 4.1.6 <i>quantity basis</i> ).
<b>Number of setups</b>	How many preparation procedures take place?



<b>Unit</b>	Display the unit  Usually the unit of the Product master in the Stock area or unit of the accordingly assigned cost category in the processing step (setup costs cate- gory/operating time category/unit cost price category).
<b>Costs</b>	computed costs of the costing row  Costs = cost price per unit x total consumption
<b>Overhead from schema</b>	Computed overheads per costing row (in accordance with calculation schema).
<b>Amount</b>	Amount = costs + overhead from schema.

### 9.3 Simulation lines Tab

The structure in the **simulation lines tab** is like the **calculation lines tab**.

050-100: CALCPROD-000001  
Calculation result

Overview Calculation lines **Simulation lines** Calculation overview

Line number	BOM	Position	Item/Resource	Name	Cost group	Cost price per unit (Simulation)	Total consumption	Base for trade agreements	Markup (Simulation)	Base for setup	Setup quantity	Unit	Cost (Simulation)	Markup from schema (Simulation)	Amount (Simulation)
1	0	BOM	CALCPROD-000001	StandardSpeaker	M9		100.00			100.00		ea		35,436.42	35,436.42
2	1	Item	M0001	Wiring Harness	M3	3.95	200.00					ea	790.00		790.00
3	1	Item	M0002	Mid-Range Speaker Unit	M1	78.99	200.00					ea	15,798.00		15,798.00
4	1	Item	M0003	Tweeter Speaker Unit	M1	23.45	200.00					ea	4,690.00		4,690.00
5	1	Item	M0004	Crossover	M1	27.80	200.00					ea	5,560.00		5,560.00

**OPERATIONS**

Oper. No.	BOM/ROUTE	Cost group	Name	Amount
10	BOM	L1	Packaging	46.67
	Route number	L2	Assembly	195.00
	Calculation bom number	L4	Q&A	280.00
Primary	Calculation route number	M1	Electronic comp.	26,048.00
	Reference	M2	Cabinets comp.	4,000.00
	5637144576	M3	Misc comp.	790.00
		M9	No costing sheet	35,436.42
		OVH2	Plant overhead	0.00
		OVH3	Material overhead	0.00
		OVH4	Labor overhead	0.00

For costing simulation, the values of the fields' **cost price** and **Overhead** can be adapted per costing row. Lines changed for costing simulation are displayed in red.

### 9.4 Calculation overview tab

In the **calculation result** tab, the sums of the calculation are displayed as supplementing information in an overview.



050-100 : CALCPROD-000001

## Calculation result

Overview   Calculation lines   Simulation lines   **Calculation overview**

	Costs	Extra charges	Sum
Material	30,834.00	0.00	30,834.00
Production - setup	0.00	0.00	0.00
Production - process	521.67	0.00	521.67
Production - unit	0.00	0.00	0.00
Production - total	521.67	0.00	521.67
Extra charges for BOMs		4,076.24	4,076.24
Profit extra charge for BOMs		31,355.67	31,355.67
Sums	31,355.67	35,431.90	66,787.57

Display values for position

with subsidiary BOMs

without subsidiary BOMs

subsidiary BOMs only

Calculation/Simulation

Calculation

Simulation

<b>Sums fields</b>	The calculated values are summarized in the sum fields (material, manufacturing, setup etc.).
<b>Display values for items</b>	<ul style="list-style-type: none"> <li>• <b>with subordinated BOM:</b></li> <li>• <b>without subordinated BOM:</b> subordinated assemblies are not included</li> <li>• <b>only subordinated BOM:</b></li> </ul> <p>The sum values in the calculation result can be displayed in single and multi-level.</p>
<b>Calculation/simulation</b>	The display between "calculation" and "costing simulation" can be changed.

### 9.5 Modify overheads

The overheads can be modified using the button **used calculation overheads** in the form **calculation result**. For this the flag **overheads modifiable** in the selection as well as in the costing row pool must be selected on the appropriate row

Note: To permit overhead modifications for all calculations of a schema, the flag **Overheads modifiable** can be set in the calculation schema. The settings are applied in future calculations.



## 10 Product dimensions and variants

The Product dimensions **color**, **size of variant** and/or **style** is considered in the explosion of calculation in Flexi Kalk. For calculation it must be displayed, which Product dimension (e.g. color black) should be computed.

### Dimensions display

**PRODUCT DIMENSIONS**

Location  
 Configuration  
 Size  
 Color  
 Style

License plate  
 Inventory status

**TRACKING DIMENSIONS**

Batch number  
 Serial number  
 Owner

**STORAGE DIMENSIONS**

Site  
 Warehouse

Save setup  
Yes

OK Cancel

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