



Documentation: **Advanced Units**

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1 Introduction

Welcome to the official manual of the Dynavision Advanced Units module.

This extension is developed with the goal to manage master data more efficiently. Unit conversions can be grouped unit classes and they can be applied to items. *Example given: it is possible to define that a crate contains 12 bottles, that a meter contains 100 cm, that a pallet contains 160 boxes, etc.*

These enhancements work in sync with existing item units.

A calculator makes it easy to enter sales orders using the invoicing Unit of Measure of an item. The conversion is done on the fly, and the correct conversion of the item Unit of Measure is done and inserted instantly on the sales document. The conversion takes into account which rounding precision has been configured for the item (up, nearest or rounding down methods).

The app also offers additional weight calculations which are carried over to all transactional documents and warehouse documents, and the possibility to set up an additional transfer Unit of Measure on the item card and the SKU.

The replenishment parameters can be set up according to the chosen unit of measure, these are then recalculated to the standard fields.

2 Installation

2.1 Extension

The Dynavision Advanced Units module is a separate Business Central extension.

1. Choose the search icon, enter **Extension Management**, and then choose the related link.
2. Choose **Manage** in the Action bar on the page and choose action **Extension Marketplace**.
3. In the search bar, enter **Dynavision Advanced Units** and install this app.

3 Configuration

3.1 Advanced Units Setup

Choose the search icon, enter **Advanced Units Setup**, and then choose the related link.

This page contains some mandatory settings and options that needs to be set in order for the user to take advantage of all the features in this app.

1. Unit Class Tab

a. Auto-Create Item Unit of Measures

When this option is enabled, the Item Units of Measures will be automatically created when assigning a unit class to an item.

2. Item Journal Tab

a. Default Unit of Measure Item Journal

Specifies which default Unit of Measure needs to be used when entering an item in the Item Journal.

The options are:

- i. Base Unit of Measure,
- ii. Sales Unit of Measure, and
- iii. Purch. Unit of Measure.

3. Weights Tab

a. Automatic calculation weights Item UOM

This option enables the calculation of the weight fields on the item Units of Measures when they were adjusted on the Item Card.

If disabled, the weights can always be manually recalculated in the Unit of Measure table if the weight would have been adjusted on the Item Card..

b. Include Assembly Items

Include the assembly BOM in the weight calculation of the item Units of Measures. This field can only be enabled when the **Automatic calculation weights item UOM** is enabled. When this option is enabled, any change of weight within the assembly BOM of the item will also automatically adjust the weight of the item.

In the **Advanced Units Setup** choose the action **Sync Item Units of Measure** in case the internal Item Unit buffer table is not yet automatically filled in with the available units (*can happen when the module was not yet activated or when importing using Rapid Start*). Using this action this internal Item Unit buffer table will be filled up (again).

3.2 Units of Measure

The **Units of Measure** page can be accessed in two ways.

Option 1

On the **Advanced Units Setup** page, choose the action **Units of Measure**.

Option 2:

Choose the search icon, enter **Units of Measure**, and then choose the related link.

On the page that opens, specify the Units of Measures that can be used for the items.

1. Code

Specifies a code for the Unit of Measure, which you can select on the Item and Resource Card.

2. Description

The description of the Unit of Measure.

3. Standard Code

Specifies the unit of measure code expressed according to the UNECE Rec20 standard in connection with the electronic sending of sales documents.

For example, when sending sales documents through the PEPOL service, the value in this field is used to populate the UnitCode element in the Product group.

4. Method

The default Rounding Method used when converting and calculating the item invoicing units of measure on documents.

The options are:

- a. Nearest,
- b. Up, and
- c. Down.

5. Qty. Rounding Precision

The default Rounding Precision used when converting and calculating the item invoicing units of measure on documents.

6. Customs Packaging Type

Specifies the related Customs Packaging Type. Select the Custom Packaging Type from the defined types in the list that opens.

It is possible to set up translations for the Units of Measure line by choosing the action **Translations**, found by choosing **Related, Unit** in the Actions bar.

3.3 Unit Classes

A unit class is a group of units that can be configured when there are many items with the same Unit of Measure. *Example given, the unit class WINE with the most common units Box 06, Bottle 75cl and MAGNUM.*

The unit class is set up to contain the most common Units of Measures and this Unit Class can be assigned to the item on the Item Card. It is always possible to add additional Unit of Measures to an item, independently from the Unit Class.

The **Unit Classes** page can be accessed in two ways.

Option 1

On the **Advanced Units Setup** page, choose the action **Unit Classes**.

Option 2:

Choose the search icon, enter **Unit Classes**, and then choose the related link.

On the page that opens, specify the Unit classes that can be assigned to items.

1. Code

The Code of the Unit Class, which you can select on the Item and Resource Card.

2. Description

The description of the Unit Class.

3. No. of Conversions

The Unit of Measure Conversions that have been configured to calculate and convert the Base Unit of Measure from the Item to the Invoicing Unit of Measure that is noted on the sales documents. Multiple conversions can be set up. (*See chapter Conversions*)

4. Fixed Conversions

Specifies whether the Unit of Measure Conversions are fixed or can be changed per Item Unit of Measure. This means that the configuration of the existing set up conversions cannot be changed when assigned to an item. It is however still possible to remove the lines with the unit conversions that do not apply to the item to which the class is assigned.

3.4 Conversions

It is possible to configure how item unit of measures need to be converted into other "Commercial" unit of Measures that are noted on the sales documents.

The **Unit of Measure Conversions** page can be accessed in two ways.

Option 1

On the **Advanced Units Setup** page, choose the action **Conversions**.

Option 2:

Choose the search icon, enter **Unit of Measure Conversions**, and then choose the related link.

On the page that opens, specify the Unit classes that can be assigned to items.

1. Unit Class Code

The Unit Class Code to which the conversion method is linked.

Linking a Unit Class Code has the advantage that conversions of Unit of Measures can be quickly assigned to an item by assigning this Unit Class Code on the Item Card (*Similar to assigning an item category and its attributes*).

Conversions that are not linked to a unit class will automatically apply to all articles that use the from and to Unit of Measure Code.

2. From Unit of Measure Code

The Unit of Measure from which the conversion must be done.

3. Conversion Factor

Specifies the quantity of the to Unit of Measure per from Unit of Measure. *E.g. 1 TON (FROM) is 23 M³ (TO).*

4. To Unit of Measure Code

The Unit of Measure to which the from Unit of Measure needs to be converted.

5. Description

Shows a comprehensible description of the conversion setup.

7. Rounding Method

The Rounding Method used when performing the conversion.

The options are:

- a. Nearest,
- b. Up, and
- c. Down.

6. Qty. Rounding Precision

The Rounding Precision used when performing the conversion.

7. Use as Invoicing Unit

Specifies if the conversion will be used in the Item units or in the Invoicing units.

To calculate quantities in any item Unit of Measure, choose the action **Unit Calculator**. For the line that was selected in the conversion page, the **Unit Calculator** screen opens. In this screen it is possible to enter a certain quantity of the From Unit of Measure to see how this will be converted into the To Unit of Measure. When choosing the number in the column Quantity rounded, it is possible to view the calculation details for the conversion.

3.5 Setting up the conversion on the Item Card

On the **item Card** following fields are added by Dynavision Advanced Units:

1. General Tab**a. Unit Class Code**

Select the Unit Class Code that will be used to immediately assign the configured conversions in this Unit Class.

After selecting the Unit Class Code, the item units need to be first manually be pushed through in the Unit of Measures page for this item if the option **Auto-Create Item Unit of Measures** is not enabled.

To create these unit of Measures from the Unit Class, choose the three points button next to the Base Unit of Measure field in order to open the edit page for the item Units of Measure, or choose action **Units of Measure** by choosing **Related, Item** in the Actions bar in the Item Card. Choose the action

Create from Unit Class, which can be found when selecting the arrow at the action **New**.

If this option is enabled, the action will be performed automatically when validating the Unit Class on the Item Card.

This field can be found in the Items Tab on the Item Card.

2. Prices & Sales Tab

a. Sales Invoicing Unit of Measure

Specifies the Invoicing unit of measure code used when you enter the item on sales documents and/or invoice the item. This Unit of Measure does not affect inventory.

The sales price list will also recalculate the price and show the price in this Invoicing Unit of Measure. Sales price lists have also been expanded to include this billing unit. *The value of the Item Card will be noted on the Sales documents, not the value in the sales price list if changed there.*

b. Open Unit Calculator (Sales)

Specifies when the Unit Calculator automatically opens on a sales document. This calculator allows to visualize the conversion for this item.

Within this page it is also possible to indicate in which unit of Measure the sale has to be made. When a number is entered into this calculator, the conversion for each unit of Measure will be visualized.

The options are:

- i. **Item**: the calculator will open after validation of the Item No.
- ii. **Variant**: the calculator will open after validation of the Variant Code.
- iii. **Leave blank** to manually open.

To open the calculator in the sales order/quote choose action **Unit Calculator** found by choosing **Line, Functions** in the Actions bar on the **Lines Tab**.

3. Replenishment Tab

a. Purchase Invoicing Unit of Measure

Specifies the Invoicing unit of measure code used when you enter the item on purchase documents. This Unit of Measure does not affect inventory.

The purchase price list will also recalculate the price and show the price in this Invoicing Unit of Measure. Purchase price lists have also been expanded to include this billing unit. *The value of the Item Card will be noted on the Purchase documents, not the value in the purchase price list if changed there.*

b. Transfer Unit of Measure

Specifies the default unit of measure code used when you transfer the item. This Unit of Measure Code will be inserted in the transfer documents where this item is entered.

This Transfer Unit of Measure will also be used in the Requisition and planning worksheet as well as in the item reclassification journal.

This field can be found in the Replenishment Tab on the Item Card.

4. Planning Tab

- a. In the **Planning Tab** there are additional fields available to enter the quantities according to the selected purchase Unit of Measure on the Item Card.

These quantities will be recalculated into the standard Business Central fields

in the **Planning Tab** using the Base Unit of Measure that has been set in the **Item Tab**.

b. Open Unit Calculator (Purchase)

Specifies when the Unit Calculator automatically opens on a purchase document. This calculator allows to visualize the conversion for this item. Within this page it is also possible to indicate in which unit of Measure the purchase has to be made. When a number is entered into this calculator, the conversion for each unit of Measure will be visualized.

The options are:

- i. **Item**: the calculator will open after validation of the Item No.
- ii. **Variant**: the calculator will open after validation of the Variant Code.
- iii. **Leave blank** to manually open.

To open the calculator in the purchase order/quote choose action **Unit Calculator** found by choosing **Line, Functions** in the Actions bar on the **Lines Tab**.

5. Item Units of Measure

On the Units of Measure page, extra fields are added in order to work with different Unit of Measures.

choose the three points button next to the **Base Unit of Measure** field in order to open the edit page for the **item Units of Measure**, or choose action **Units of Measure** by choosing **Related, Item** in the Actions bar in the Item Card.

a. Qty. in Purchase Invoicing Unit of Measure

Specifies the quantity in the purchasing invoicing unit of measure. This value is calculated based on the specified **Purchase Invoicing Unit of Measure** on the Item Card. This Unit of measure is used as a base to calculate the quantities for the other purchase invoicing Units of Measure.

b. Tare Weight

Specifies the Tare Weight of one item unit when measured in the specified unit of measure of the line. This weight will be available on the sales order, this makes it possible to track the entire weight of the order.

When there is a Reusable Package attached to an item, the weight of the Reusable Package item will be included.

If Dynavision Advanced Units is combined with the Excise Duties module, these weights are also carried over on the AAD document (see excise manual).

c. Gross Weight

Specifies the Gross Weight of one item unit when measured in the specified unit of measure of the line. This weight will be available on the sales order, this makes it possible to track the entire weight of the order.

When there is a Reusable Package attached to an item, the weight of the Reusable Package item will be included.

If Dynavision Advanced Units is combined with the Excise Duties module, these weights are also carried over on the AAD document (see excise manual).

d. Rounding Method

Specifies the Rounding Method used for the conversion.

4 Usage on sales and purchase documents

When creating a sales/purchase order/quote for a customer, enter the item that needs to be sold on the lines.

If the conversion is set up, and the **Invoicing Unit of Measure** is different from the Base Unit of Measure of the item, enter the quantity that needs to be sold of the base unit of quantity and the **Invoicing quantity** column will automatically be calculated based on the set conversions in the Item Unit of Measure page.

It is also possible to modify the value in the **Invoicing Quantity** column. When validating this quantity of the **invoicing Unit of measure code**, the quantity in the **Base Unit of Measure** will automatically be converted, depending on the conversion settings. This quantity can be found in the column **Quantity**.

4.1 Unit Calculator

Depending on the setting in the Item Card in the field **Open Unit Calculator**, the Unit calculator will open when the item no. or variant is validated on the sales/purchase lines. It is also possible to manually open the Unit Calculator in the Lines section of the order by choosing the action **Unit Calculator**, which can be found when choosing **Functions**.

Remark: the **Unit of Measure** page can also be accessed by choosing the three dots in the **Invoicing Quantity** column value for the line of the item that needs to be changed.

The **Unit Calculator** opens, in which the inserted quantity for the line is noted and is recalculated in the different available Unit of Measures.

1. Quantity

Specifies the quantity that will be noted on the line in the sales document. This quantity can be edited in order to recalculate the values for the possible different Unit of Measures of the item.

2. Quantity Rounded

Displays the rounded quantity. This takes into account the Rounding precision set on the **Item Unit of Measure** of the corresponding item.

3. Unit of Measure Code

Displays the Unit of Measure. All specified Item Unit of Measure for the item will be listed in the lines.

4. Take Over

Displays what will be noted on the sales line when this line of the Unit Calculator is chosen to add to the sales lines. Displays the rounded quantity that will be inserted in the Quantity field and the Unit of Measure that will be noted in the Unit of Measure Code. Choose the link in this column on the Unit of Measure line and this value will be noted in the sales line as the new Sales Unit of Measure and quantity.

5. Qty. In X

Specifies the value of the of the Quantity in the Invoicing Unit of Measure.

6. Qty. in Y

Specifies the value of the Quantity in the Base Unit of Measure.

7. Base Unit of Measure

Specifies if the Unit of Measure is set as the base Unit of Measure.

Remark: this cannot be edited and will always indicate the Base Unit of Measure set on the Item Card.

8. Sales Unit of Measure

Specifies if the Unit of Measure is set as the sales unit of Measure.

Check this box next to the Unit of Measure line that needs to be noted on the sales document. After changing this value, and choosing **OK** the sales line will be edited and the quantity of this line, and the Unit of Measure Code will be noted on the sales line.

9. Sales/Purch. Unit of Measure

Specifies if the Unit of Measure is the purchase Unit of Measure.

Remark: this value cannot be changed and will always indicate the Purchasing Unit of Measure set on the Item Card.

10. Invoicing Unit of Measure (Sales/Purchase)

Specifies if the Unit of Measure is the invoicing Unit of Measure for the Sale or Purchase documents.

Remark: this cannot be changed and will always indicate the Sales or Purchasing Invoicing Unit of Measure set on the Item Card.

When the Sales or Purchase Unit of Measure is changed, it is always possible to reset the selection of the Sales/purchase Unit of Measure back to the settings specified on the Item Card.

Choose **OK** to change the information on the line back to this Unit of Measure.

Remark: the quantity will not be resetted.

*On the Report Layout, it is possible to enable the option to print the **Invoicing UOM** for sales and purchase documents.*

4.2 Example Case

Lamipark is a specialty laminate & wood flooring store, they recently received an order from a local cabinetmaker.

The joiner needs 10.5 square meters of laminate flooring to install at his customer's home.

Lamipark only sells Laminate Liners in full packs, which means a conversion is needed to convert those 10.5 square meters into a quantity of packs.

Lines	Manage	Line	Order	Fewer options						
Type	No.	Item Reference No.	Description	Location Code	Bin Code	Quantity (Invoicing)	Unit of Measure Code (Invoicing)	Quantity	Unit of Measure Code	
→ Item	ART00063		test laminaat	HOOFD-		* 10.5	M²	*	PAK	

We enter the item on the sales order. We enter the quantity of square meters required in the field "quantity (invoicing)". When we validate this line it will be automatically converted to the

number of packs needed depending on the settings applicable to the item (e.g.: rounding method).

Lines	Manage	Line	Order	Fewer options						
Type	No.	Item Reference No.	Description	Location Code	Bin Code	Quantity (Invoicing)	Unit of Measure Code (Invoicing)	Quantity	Unit of Measure Code	
→ Item	:	ART00063	test laminaat	HOOFD-		12.26994	M ²	6	PAK	

As you can see in the image above, the 10.5 square meters of laminate has been converted to 6 packs of laminate. These 6 packs of laminate equate to 12.26994 square meters.

One can play with these fields to determine the desired quantity (e.g., change quantity to 5 packs of laminate = 10.22495 square meters of laminate).

5 Usage on Requisition and Planning Worksheet

On the Planning and Requisition Worksheet, the Purchase Unit of Measure is noted. This will be calculated when using the action **Calculate Plan** on the pages.

In this section, the Requisition Worksheet will be used to explain the functionality of the added fields.

1. Choose the Search Icon, enter **Requisition Worksheet**, and choose the related link.
2. Following columns are added on the page:
 - a. **Invoicing Quantity**
Specifies how many units are being purchased.
 - b. **Invoicing Unit of Measure Code**
Specifies how each Unit of the item or resource is measured, such as pieces or hours. By default, the value in the **Purchase Invoicing Unit of Measure field** on the Item or Resource Card is inserted.
 - c. **Invoicing Unit Cost**
Specifies the cost for one invoicing unit on the Requisition Line.
3. When executing the function **Calculate Plan...**, for the items, for which the field **Purchase Invoicing Unit of Measure** contains a value, the column **Invoicing Unit of Measure** contains the value of this Purchase Invoice UoM.
4. The **Invoicing Quantity** will be calculated based on the UOM setup, using the Unit Calculator.
 - a. It is possible to open the **Unit Calculator** and recalculate the Quantity in the set up Unit of Measure Codes for the item.
5. After optionally modifying the parameters that have been proposed in the worksheet, choose the action **Carry Out Action Message...**
6. The Purchase orders are created, with the Invoicing information that was displayed on the lines in the worksheet.