



**Grundfos**  
**Supplier Integration guidelines**  
**Invoices - EMEA Region**  
**Indirect and Direct Materials**  
**Supply Chain Collaboration**

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## 1. Version History

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This log is updated each time this Process Document is updated. The log identifies the version number, the date the version was completed, the author of the changes, and a brief description of the changes.

Version	Date	Author	Description
1.0	27 July. 2023	Isabelle De Busschere - SAP Ariba	Initial Version of Document
2.0	7 August 2023	Isabelle De Busschere - SAP Ariba / Grundfos team	Review during a call
3.0	10 August 2023	Isabelle De Busschere - SAP Ariba / Grundfos team	Review during a call
4.0	03 October 2023	SAP SCC EMEA SIs	Samples added: added cost Line level / Line Level Debit Memo)
5.0	12 October 2023	SAP SCC EMEA SIs / Grundfos Team	Review during a call
6.0	26 October 2023	SAP SCC EMEA SIs / Grundfos Team	Update following Grundfos email
7.0	8 November 2023	SAP SCC EMEA SIs / Grundfos Team	Update following Grundfos email
8.0	9 November 2023	Grundfos Team	Final Version signed-off

## 2. Grundfos cXML Mapping Requirements and Deltas

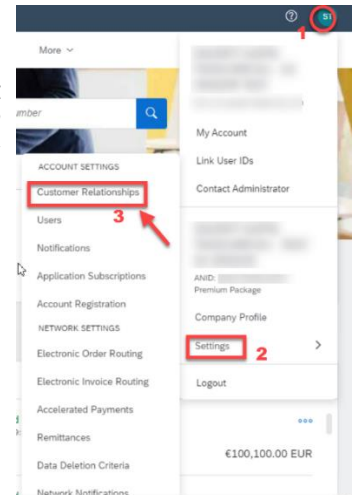
The following is a summary of the cXML requirements that are unique to Grundfos's procurement environment. Detailed explanation of these items can be found in the proceeding pages.

### 2.1. Grundfos Transaction Validation Rules

Grundfos has configured validation rules which apply specifically to invoices.

Ariba applies the following set up logic for sellers:

- Default Transaction Rules:** Default Transaction rules have been set to reflect Grundfos specific validation requirements in terms of transactions on SAP Business Network. Default transaction rules apply by default whenever Country Based Rules are disabled, or seller is NOT placed in a specific group.
- Country Based Transaction Rules:** Grundfos has set country-based transaction rules with regards to the different countries currently transacting with this customer. Country based rules for Grundfos override the Default transaction rules set for sellers.



Please review these settings from your supplier account on AN.

1. Login to your supplier account on the AN.
2. Click on **your name** (1) then **Settings** (2) and click **Customer Relationships** (3) from the navigational bar just below.
3. Click on **Grundfos** under your list of **Current** trading partners.

<input type="checkbox"/>	Customer	Network ID	Relationship Type	Approved Date	Supplier Information Portal	Routing Type	Actions
<input type="checkbox"/>	[Redacted]	[Redacted]	Trading	16 Jul 2020	[Redacted]	Default	Actions ▾
<input type="checkbox"/>	[Redacted]	[Redacted]	Trading	24 Sep 2020	[Redacted]	Default	Actions ▾
<input type="checkbox"/>	[Redacted]	[Redacted]	Trading	2 Sep 2019	[Redacted]	Default	Actions ▾
<input type="checkbox"/>	[Redacted]	[Redacted]	Trading	13 Jan 2020	[Redacted]	Custom	Actions ▾
<input type="checkbox"/>	[Redacted]	[Redacted]	Trading	26 Nov 2021	[Redacted]	Default	Actions ▾

4. Review all available sections and check to see if you also have Country Based Rules that apply to you.

**Order Confirmation and Ship Notice Rules**

Allow suppliers to confirm an order multiple times. ⓘ	No	Confirm only once at the line-item level. ⓘ
Allow suppliers to send order confirmations for material orders. ⓘ	Yes	
Allow suppliers to send order confirmations for material orders at the line-item level. ⓘ	No	
Allow suppliers to reject quantities for material orders at the line-item level in order confirmations. ⓘ	No	
Require suppliers to send order confirmations for material orders at the schedule line-item level. ⓘ	No	
Apply tolerance for quantity at the schedule line-item level.	No	

**Country-based Invoice Rules**

Originating Country of Invoice: All Other Countries ▾

**Download Invoice Rules**

General Invoice Rules

Allow suppliers to send invoices to this account. Yes

### 2.2. cXML Deltas (sample files)

In the excel workbook you will find baseline cXML transactions accepted by the SAP Business Network with the additional cXML requirements for Grundfos.

### 3. Scope

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Grundfos's Prod ANID: AN01480939393  
Grundfos's Test ANID: AN01480939393-T

#### 3.1. Required Transactions / Optional Transactions

Please note that this version of Integration guidelines mainly covers the scope of Direct Materials – Supply Chain Collaboration (SCC)

Please review the list of the documents and processes presented below. Required and Optional transactions will be discussed directly with Grundfos team and the supplier case by case.

#### 3.2. Locations in scope

Ship To and Bill To will be provided on a case-by-case basis to each supplier. Please make sure to contact the Grundfos team in order to be provided with the needed information.

The Countries in scope for EMEA are:

- Denmark
- Finland
- Germany
- United Kingdom of Great Britain
- The Northern Ireland
- The Netherlands

#### 3.3. Materials in scope

Direct Material: Yes

Indirect Material: Yes – it has to be confirmed per supplier.

### 4. Processes – Direct Materials

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#### 4.1. Processes in scope

Please note that the processes in scope are discussed with the supplier per each case. This list represents the general scope of Grundfos project.

#### 4.2. Currently available processes

- Invoices Collaboration:
  - Standard Invoice
  - Line Level Credit Memo
  - Line Level Debit Memo

### 4.3. Processes in detail:

➤ Invoices Collaboration

SAP Business Network Terminology	Direction	Grundfos Terminology
Invoice	Sent by Supplier to Grundfos	Invoice

## 5. Invoices

---

Grundfos is requiring the suppliers to provide the invoices within the below specifications.

Customer supports Order Confirmation. Supported methods of providing them are:

- cXML
- Online

<i>Invoice Types Supported</i>	<i>Invoice Types Not Supported</i>
Individual Detail Invoice: applies against single PO referencing line items. line items are material items	Non-PO Invoice: invoice against PO not transacted via the SAP Business Network- technically supported but this specific case should not be part of the SCC scope
Partial invoice: Invoice against a portion of the items on a PO.	Non-PO invoice against contract or master agreement
Line level credit Memo supported by negative quantity at item level and positive unit price. (Invoice purpose set to "lineLevelCreditMemo")	Header Credit Memo
Line Level Credit Memo for Price correction Quantity is the same as in the invoice. The price correction is sent in the Line Level Credit Memo	Information Only Invoice
Duplicate Invoice: invoice numbers may be reused in case of <b>failure</b> of original invoice	Duplicate Invoice: invoice numbers may be reused in case of <b>reject</b> of original invoice
Summary Invoice (one invoice covering multiple Grundfos Pos )	Cancel Invoice
Line Level Debit Memo for Price correction	Invoice against PCard
	Header Invoice: single invoice applying to single PO without item details
	Invoice against Blanket PO (not in SCC scope)

## 5.1. Invoice Requirements

Invoice Segment	Mandatory / Optional	Description
Invoice Number	Mandatory	The INV number is allowed to be reused in case of failed. Invoice Number cannot be longer than 16 characters
Invoice Date	Mandatory	Cannot be backdated
Taxes	Mandatory	<ul style="list-style-type: none"> <li>Suppliers are required to enter taxes at line item level</li> <li>Supplier should align with Grundfos directly on the tax rates</li> </ul>
Payment Terms	Mandatory	Discount information is not mandatory, and it is allowed to change the discount payment term. However, the net payment term from the PO cannot be changed.
Invoice Detail Line Indicator	Mandatory depending of the case	<ul style="list-style-type: none"> <li>isTaxInLine</li> <li>isPriceAdjustmentInLine</li> </ul>
Payment note	Mandatory/Optional	<ul style="list-style-type: none"> <li>mandatory or optional per country</li> </ul>

## 5.2. Mandatory Fields Per Country:

Country	Mandatory Field
Finland	Payment note Mandatory for domestic invoices

## 5.3. VAT Requirements in EMEA invoices

- VAT is supported and required at the line level and summary level.

VAT Rules/ Aligned with country requirements	Comment
Require Grundfos VAT/Tax ID.	Yes
Require supplier's VAT/Tax ID.	Yes
Tax point date / Date of Supply (the date when the VAT becomes due) is required for all VAT entries.	Yes
Category	Yes
Tax rate	Yes
Taxable amount	Yes
Require tax amounts in local currency.	Yes
Require subtotal and amount due in local currency.	Yes
Require explanation for zero rate VAT.	Yes
Location	No
summary tax amount is required on all invoices even if that amount is zero.	Yes
Require detailed tax information in tax summaries.	Yes
Display invoice totals as Subtotal, Tax Amount, and Amount Due.	Yes
Allow suppliers to submit self-signed invoices.	No

Please see the following example of a valid VAT tax group on item level (same structure content is required on summary level, the TaxDetail group must be repeated for each VAT rate/ tax type).

The example presents the case of 0% VAT – in which the exemptDetail attribute is required. For other VAT rates this attribute will be removed

```
<TaxDetail category="vat" exemptDetail="zeroRated" percentageRate="0"
taxPointDate="2023-06-06T00:00:00+02:00">
  <TaxableAmount>
    <Money currency="EUR">92878.50</Money>
  </TaxableAmount>
  <TaxAmount>
    <Money alternateAmount="0.00" alternateCurrency="HUF" currency="EUR">0.00</Money>
  </TaxAmount>
  <Description xml:lang="en-GB">Route from FI to HU</Description>
</TaxDetail>
```

**Note: in the case of the 0% VAT please use Description field to provide details on the tax (like in the above example).**

#### 5.4. Address Requirements:

Invoice Segment	Mandatory/Optional	Description
Remit to	Optional	Please note that in case Remit To is present, the tax ID is mandatory, and it is different Supplier VAT ID) <IdReference domain="supplierTaxID" identifier="CHE107951109" /> To be discussed per every supplier integration project
Bill To	Mandatory	Address is required Address ID is required
Bill From	Mandatory	Information about the supplier sending the invoice
Sold To	Mandatory	Must match PO Bill To Name - AddressID is required
Ship To Ship From	Mandatory	ShipFrom and ShipTo addresses are required. Both are always used together. The ShipTo address ID from the PO related to the invoice should always be used and included on the invoice.
from	Mandatory	Invoice sender

#### 5.5. Shipping costs, special handling costs and additional surcharges

Surcharges can be added on line Level only.  
Shipping and special handling added on header level only.

Shipping and special handling is supported as a line for shipping charges with reference to the corresponding PO.

Example of an additional charges at header level for shipping costs:

```

<Modification>
  <AdditionalCost>
    <Money currency="GBP">100.00</Money>
  </AdditionalCost>
  <Tax>
    <Money alternateAmount="20.00" alternateCurrency="GBP" currency="GBP">20.00</Money>
    <Description xml:lang="en-GB"/>
    <TaxDetail category="vat" percentageRate="20" taxPointDate="2023-06-06T00:00:00+02:00">
      <TaxableAmount>
        <Money currency="GBP">100.00</Money>
      </TaxableAmount>
      <TaxAmount>
        <Money alternateAmount="20.00" alternateCurrency="GBP"
currency="GBP">20.00</Money>
      </TaxAmount>
      <Description xml:lang="en-GB"/>
    </TaxDetail>
  </Tax>
  <ModificationDetail code="64" name="Freight Charge">
    <Description xml:lang="en-GB">shipping cost</Description>
  </ModificationDetail>
</Modification>

```

Suppliers can invoice unplanned delivery costs on summary (header) level. (please refer to the example from delta files where you will find all the details).

Shipping Costs	Optional	Suppliers are allowed to add shipping costs on (header) level
Shipping Costs Tax	Optional	If shipping costs are invoiced, tax for shipping cost might be included.
Special Handling costs	Optional	Suppliers are allowed to add special handling costs on (header) level.
Special Handling tax	Optional	If special handling is invoiced, tax for special handling might be included.
Packaging	Optional	Suppliers are allowed to add Packaging costs on (header) level
Packaging tax	Optional	If Packaging is invoiced, tax for Packaging might be included.
Surcharge	Optional	Suppliers are allowed to add surcharge costs on line level
Surcharge Tax	Optional	If surcharge is invoiced, tax for surcharge might be included.

## 5.6. Alternate Currency Requirements

**(Only if PO is in foreign currency)**

In such cases, for some countries, there is requirement that VAT amount has to be shown as well in local currency as PO currency.

To present the VAT in your invoice in both the currency of the po and your local currency this is how you need to construct the cXML:

### **At Invoice Header Level:**

Suppliers need to indicate tax exchange rate by inserting the following Extrinsic element within the InvoiceDetailRequestHeader element:

```
<Extrinsic name="taxExchangeRate">368.9282</Extrinsic>
```

**At Invoice Summary Level and Line level** for SubtotalAmount, TaxAmount and DueAmount:  
e.g.

```
<Tax>
  <Money alternateAmount="0.00" alternateCurrency="HUF" currency="EUR">0.00</Money>
  <Description xml:lang="en-GB"/>
  <TaxDetail category="vat" exemptDetail="zeroRated" percentageRate="0" taxPointDate="2023-06-06T00:00:00+02:00">
    <TaxableAmount>
      <Money currency="EUR">92878.50</Money>
    </TaxableAmount>
    <TaxAmount>
      <Money alternateAmount="0.00" alternateCurrency="HUF" currency="EUR">0.00</Money>
    </TaxAmount>
    <Description xml:lang="en-GB">Route from FI to HU</Description>
  </TaxDetail>
</Tax>
```

**Note:** For the alternate tax topic supplier will always be required to present the VAT in their invoice in both the currency of the PO and local currency if the PO is in a foreign currency.

## **5.7. Unit of measure**

All cXML transactions are required to support and conform to the United Nations Units of Measure Common Code system (UNUOM).

For a full list of UNUOM Codes, refer to the following site:

[http://www.unece.org/cefact/codesfortrade/codes\\_index.html](http://www.unece.org/cefact/codesfortrade/codes_index.html)

The list of UoM used in the project are shared in the attached Excel file

## **5.8. Advance Pricing details**

The <UnitPrice> tag contains the line item unit price. The total price for the line is not transmitted but can be calculated by multiplying the Unit Price and the quantity.

The <PriceBasisQuantity> qualifies Price with a 'Price Per' quantity. It is set to 1 in most cases with a <conversionFactor> to 1.

<PriceBasisQuantity> includes a unit of measure to describe what the price and price quantity applies to, such as, a price of 100€ could apply to 1 case of product or to 25 Kilograms.

Examples below show how to perform the price calculation at line level.

Example 1:

Line item Quantity	100 pieces
Price per UOM	3 CHF for 5 PF (pallet)
Qty of Packaging UOM	5 PF
Conversion factor	1 piece = 0.2 PF (20 pieces per PF)
Price at line level	$100 \times 3/5 \times 0.2 = 12$ CHF

Example 2:

Line item Quantity	5223 pieces
Price per UOM	725 CHF for 1000 MCT
Qty of Packaging UOM	1000 MCT
Conversion factor	1 piece = 0.034 MCT
Price at line level	$5223 \times 725/1000 \times 0.034 = 128.747$ CHF

\*Please note that these scenarios are just examples to show you the correct way of calculation. They might not be relevant for Grundfos.

Here is an example of this segment:

```

<UnitPrice>
  <Money currency="EUR">9450</Money>
</UnitPrice>
<Description xml:lang="en">Description 1</Description>
<UnitOfMeasure>KGM</UnitOfMeasure>
<PriceBasisQuantity quantity="1000" conversionFactor="1">
  <UnitOfMeasure>KGM</UnitOfMeasure>
</PriceBasisQuantity>

```

## 6. Supplemental Documentation

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This document contains Grundfos specific information regarding transaction requirements. Information in this document does **NOT** cover the complete technical aspects of integrating with the SAP Business Network. Below are two sections for supplemental documentation to be used with this document for cXML transaction formats. Only refer to the section that pertains to the format your organization with be sending/receiving from the SAP Business Network (cXML).

### **cXML Section for Supplemental Documentation**

New cXML supplier to SAP Business Network must:

1. Support a DTD (document type definition) validation tool internally and download the document type definitions (DTD's) for all supported transactions.
2. Support HTTPS protocol. SAP Business Network supports HTTPS (not HTTP) only for cXML transactions.
3. Review the cXML Solutions Guide and cXML User Guides.

### **cXML Document Type Definitions (DTD's):**

- <http://cxml.org> Download InvoiceDetail.zip for the InvoiceDetailRequest.dtd.
- <http://cxml.org> Download cXML.DTD for the ProductActivityMessage, ProductReplenishmentMessage, OrderRequest,
- <http://cxml.org> Download Fulfill.dtd for ConfirmationRequest, ShipNoticeRequest, ReceiptRequest

**Recommended Resources:** [SAP Ariba cXML Solutions Guide](#) and [SAP Ariba cXML Reference guide](#)  
May also be downloaded via login to your supplier account (<https://supplier.ariba.com>) on the SAP Business Network :

1. Click the 'Help' link in the upper right-hand section of the page.
2. Select 'Help Center' from the drop-down menu.
3. Enter Search... keywords or full document name.
4. Click on the pdf document name to open and download.

## 7. SAP Business Network Support Information

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Supplier Integration (SI) support is available to Grundfos suppliers. SI support is available during the test phase and two weeks post go live with Grundfos, or until the first production transactions are exchanged. After that period, suppliers must leverage SAP Ariba Technical Support for any production issues. To contact SI support, send an email to [askaribatech@ariba.com](mailto:askaribatech@ariba.com). Be sure to list Grundfos in the subject line of the email.

Depending on your transaction volume across all Buyers on the SAP Business Network you will be automatically subscribed to a Supplier Membership Program Subscription. These subscriptions provide your organization access to many premium features and services that are exclusively available to members at these levels. The Premier, Enterprise, and Enterprise Plus levels provide ongoing technical electronic document support. To find out more go to:

[http://www.ariba.com/assets/uploads/documents/Datasheets/SMP\\_Subscription\\_Datasheet.pdf](http://www.ariba.com/assets/uploads/documents/Datasheets/SMP_Subscription_Datasheet.pdf).

To find out your Program Subscription, log on to <https://supplier.ariba.com>, click the Property Navigator toolbar on the upper right corner of the page and select **Service Subscriptions** in the drop-down box.

**Until subscribed to one of SAP Ariba's support programs**, limited assistance regarding account registration, access and configuration is available from SAP Business Network:

**By Web:**

If you can log into your SAP Business Network Account	If you cannot log into your account
<ul style="list-style-type: none"><li>• Login at <a href="http://supplier.ariba.com">http://supplier.ariba.com</a></li><li>• Once logged in, click on the 'Help' link located on the upper right hand side of the page and choose <i>Help Center</i>.</li><li>• Select Support located in the top right hand side of the page.</li><li>• Options in the bottom right hand side of the page are Live Chat or By Phone.</li><li>• An Online Service Request can also be submitted by selecting the "Email SAP Ariba Customer Support" button in the top center of the page.</li></ul>	<ul style="list-style-type: none"><li>• Go to <a href="http://supplier.ariba.com">http://supplier.ariba.com</a></li><li>• For login issues select the "Forgot Username" or "Forgot Password" links near the top of the page.</li><li>• Fill out the web form and select the <i>Submit</i> button.</li></ul>

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