USER MANUAL

VERSION 1 AND HIGHER

FOREWORD

This manual has been provided as an aid for those who have completed the training course and wish to learn more about or review certain aspects that were covered in the course.

In the manual, the graphic interface, the various screens, all of the available information and fields, and the basic settings are explained in detail. We have also included an overview of the broader possibilities of the AQ Manager Full Web software. Further information is available in the Frequently Asked Questions section of our Web site: docs.aqmanager.com. Here you will find information on the operating parameters for specific actions. This FAQ are updated every day with the questions received by the application support team.

We recommend that anyone responsible for installing our application complete at least four days of training. Indeed, accurate functioning, the right information, and proper processing (fast and efficient) depend on correct encoding, a well-planned organization based on precise criteria, and carefully considered data structuring.

And unfortunately, that cannot be learned from a book.

> ***PLEASE NOTE:***
>
> While it is possible to import raw data using MS Excel spreadsheets, there is NO VERIFICATION of the VALIDITY of the data before import; the only verification that is made is that of the data's integrity. A poorly-executed import may cause the application to malfunction. For this motive, we recommend that you request assistance from one of our consultants for this type of operation.

This is a 6-part manual. Each part covers a number of software options. Below is a summary of the various topics:

- ***Part 1***: A guided tour of the application showing how to navigate between the layouts, menus, screens, tabs, etc.
- ***Part 2***: Managing your Equipment. This part presents the "Equipment" sheet, the associated functions and everything directly related to the equipment: tree views, movements, types, lines, work accounts, locations, counters, etc
- ***Part 3***: Managing your Inventory. This chapter covers the concept of inventory management in the CMMS, definition of assets, stocks management, suppliers and families. We also briefly discuss the management of purchases, orders, delivery, supplier evaluation, and supplier invoice verification.
- ***Part 4***: Task management. What is a WO in AQ CMMS Manager Full Web? What are the different stages in the life cycles of a WR and a WO? We will explain the different ways of validating a WO, how to encode the services provided and the assets used. We will also have a look at the tables associated with WOs, such as the motives for and types of tasks, possible problems, causes and solutions, etc. This part will also cover the more specific aspects of preventive maintenance, maintenance tasks, and periodicity. Finally, we will discuss the management of task scheduling and related alerts.
- ***Part 5:*** LIMS. This part will explain the settings for the LIMS option.
- ***Part 6:*** Settings and security. Settings? In order to provide the highest possible level of adaptability to your needs, our application can be configured down to the smallest detail.

  Security? To use AQ CMSS Manager Full Web, we recommend that you define separate user profiles with higher or lower levels of access to the application.

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PART 1: NAVIGATING WITHIN THE APPLICATION

Graphic interface (Application menus)

The AQ Manager Full Web software application is based on a graphic interface consisting of menu layouts, images, photos, indicators…

Clicking on the areas in each menu causes the various application screens to be displayed. A sidebar menu (on the right or left) allows the user to navigate between the menus.

This graphic interface can be fully customized.

Screens

The screens used to enter information and access data are composed of two web pages: a search page and an editing page.

When the screen is opened, the AQ Manager Full Web application displays a search screen (described below). This screen lets you perform searches for existing data through the use of filters.

Double-clicking on a record line opens the editing window for that record.

Clicking on the “New” button on the tool bar lets you create a record, which is done on the editing page.

Dropdown lists in the screens

In the editing pages, some fields are presented as dropdown lists.

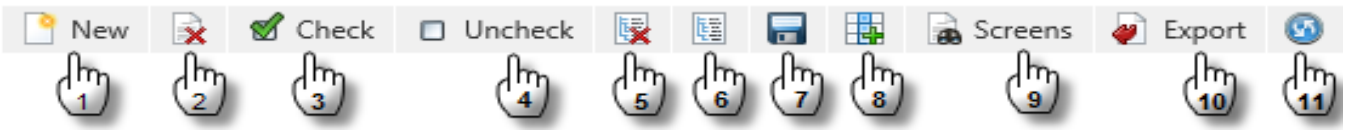
These lists display three buttons on the right:

The first button opens the data search and edition/creation page linked to the dropdown list.

The second button lets the user update the content of the dropdown list as may be needed after having added to, changed or deleted a record in the list.

The third button is used to open the dropdown list and look for a file recorded in it.

Search screen tool bar



There is a tool bar in the search screen just above the records, with buttons that allow the user to:

1. Create a new record.
2. Delete selected records. (Note: Deleted records are deactivated in the database. They can be reactivated by the application administrator.)
3. Check all the records on the page or on all the pages.
4. Uncheck all the records on the page or on all the pages.
5. Collapse the navigation tree for the records on the page.
6. Expand the navigation tree for the records on the page.
7. Edit the search screen properties and save the changes.
8. Add or delete columns in the search screen.
9. Switch from one search screen format to another.
10. Export data recorded in the search screen.
11. Update the contents of the search screen.

Search functions

The permanent search screens allow the user to perform simple or advanced searches, pool data, and export results.

There is a search bar above each column in the screen. To do a search, enter the search criteria above one or more columns (e.g. Motor). After a few seconds, the AQ Manager Full Web application will display the search results.

The “funnel” button on the right of each search criterion, is used to define the type of filter to use with the search criterion entered (e.g. begins with, contains, does not contain…).

To remove a search criterion, delete it.

To remove an entire filter, click on the “Clear” link to the left of the search criteria.

To perform an advanced search, click on the “Create Filter” link (at the bottom left). This will open a window allowing a filter to be set up.

To create a data pool in the search screen, drag a column title into the gray area directly above the search line.

To export search results, click on the “Export” button on the upper right, in the tool bar (#10 in the image shown above).

Customizing search columns

To expand or collapse a column, click on the lines separating the search columns and drag to the side.

To add a column, click on the “Customization Window” button in the tool bar (#8 in the image shown above). This opens a window that allows the user to select columns and drag them into the search screen.

To delete a column, drag it into this customization window.

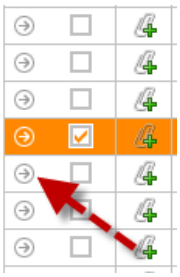
When you have finished customizing a search screen, you can save it for future use. To do so, click on the “Screen property” button (#9 in the image shown above) in the tool bar to open the backup screen.

To access all the information of a record displayed in the search screen, double-click on the specific record line.

A column associated with a checkbox can be used as a filter. This is useful to select several records to which you want to apply a particular function available in the screen menu (e.g.: copy).

If a paper clip appears in a column, this means that one or more documents are attached to the record. If a “+” symbol is attached to the paper clip, there are no related records. Click on the clip to access the attached documents.

Search screen sub-levels



You will sometimes see an arrow in front of each line in the search screen. This shows that the line includes a sub-level containing data that is related to the data displayed in the main line. For example, under the line for an article, you could find information about suppliers, stock levels by store, etc.

PART 2: MANAGING YOUR EQUIPMENT

You can manage your equipment if you have acquired the following options:

- CMMS,
- LIMS,
- Calibration

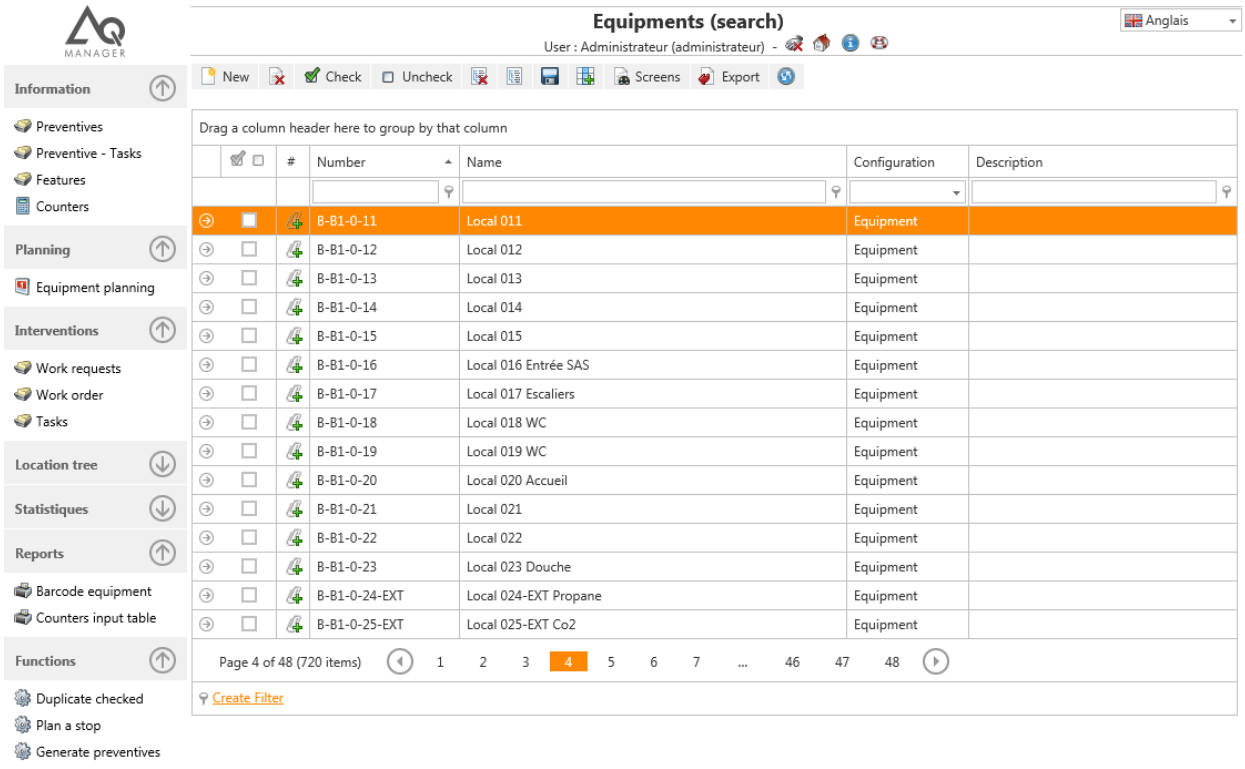
CHAPTER 1 / Equipment search screen

This screen displays the list of equipment managed with AQ Manager Full Web.

The screen can be customized as explained in PART 1 of this manual.

A complementary menu is displayed with the search screen and is described below.

> ***Note***:
> This menu, like all the others in the application, can be customized. Some of the links described below may not be available in the in the version displayed on your screen. Other links that have not been included in the description may appear depending on your settings.



Information (Left sidebar menu)

Important: The information menu displays the data for the equipment selected in the search screen.

Preventive

Opens the preventive maintenance (PM) search screen.

Preventive - tasks

Opens the preventive maintenance search screen and displays the tasks.

Features

Opens the equipment search screen in function of the equipment features. This allows the user to compare the features of several elements of equipment at a glance.

Note: In this screen, each equipment can be listed several times, one line per feature. An equipment that has been given five features will therefore appear on five lines in the screen. The procedure used to attribute equipment features is explained in *CHAPTER 2 / Equipment screen.*

Counters

Opens the counter search screen.

Planning (Left sidebar menu)

Important: The information menu displays the data for the equipment(s) selected in the search screen.

Planned preventive maintenance (PPM)

Opens a search screen that shows the schedule for preventive maintenance for the coming month (up to 9 months). Each maintenance operation will be displayed. In this way the work load can be evaluated.

Equipment planning

Opens the equipment scheduling screen to display the scheduled operations: task in a Work Order, preventive maintenance, and downtime.

Exceptions

Displays the detailed list of exceptions in the schedule of equipment.

Interventions (Left sidebar menu)

Important: The operations listed are those carried out on the equipment(s) selected in the search screen.

Work requests

Opens the search screen for Work Requests.

Work orders

Opens the screen for Work Orders.

Tasks

Opens the screen for Work Order Tasks.

Tree views (Left sidebar menu)

Opens the tree view for equipment by location, by function or by network. The different tree views are discussed in detail in Chapter 3 / Tree views – Equipment.

Statistics (Left sidebar menu)

This menu can display a selection of statistics. The statistics show the data relative to the equipment(s) selected in the search screen.

Reports (Left sidebar menu)

Important: The reports show the data for the equipment(s) selected in the search screen.

Barcode equipment

Prints the list of equipment with the corresponding bar codes.

Counter input table

Prints the list of counters to be read.

Functions (Left sidebar menu)

Important: The functions are executed for the equipment(s) selected in the search screen.

Duplicate checked

Makes a copy of the equipment(s). The saved copy will have the same number as the original record, followed by a series of 6 numbers which ensures that the copy number is unique. The name of the equipment will also be made up of the original name

to which the word “copy” is added, followed by 6 numbers. The “copy” text can be configured using the function “Duplication text of equipment”.

Plan a stop

Schedules downtime for the selected equipment(s).

Generate preventives

Creates work orders for the selected equipment(s) that is due for preventive maintenance.

CHAPTER 2 / Equipment screen

The table of equipment allows the user to input the detailed technical descriptions of the equipments installed on the site(s). This table also allows the user to input the PM scheduling for each element of equipment.

Each equipment sheet gives you a detailed follow-up of the maintenance done and the related maintenance costs.

The equipment can be grouped under a tree view. Equipment can be listed in three different trees: location, function and network. These tree views are unlimited in the number of levels and are not limited to a specific time. Equipment(s) can be dragged from one branch to another and intermediate levels can be created.

For ease of input, the equipment can be duplicated using the "Duplicate the equipment" function in the lateral sidebar of the equipments search screens.

To create a new equipment, just click on 

in the toolbar at the top of the equipments search screen.

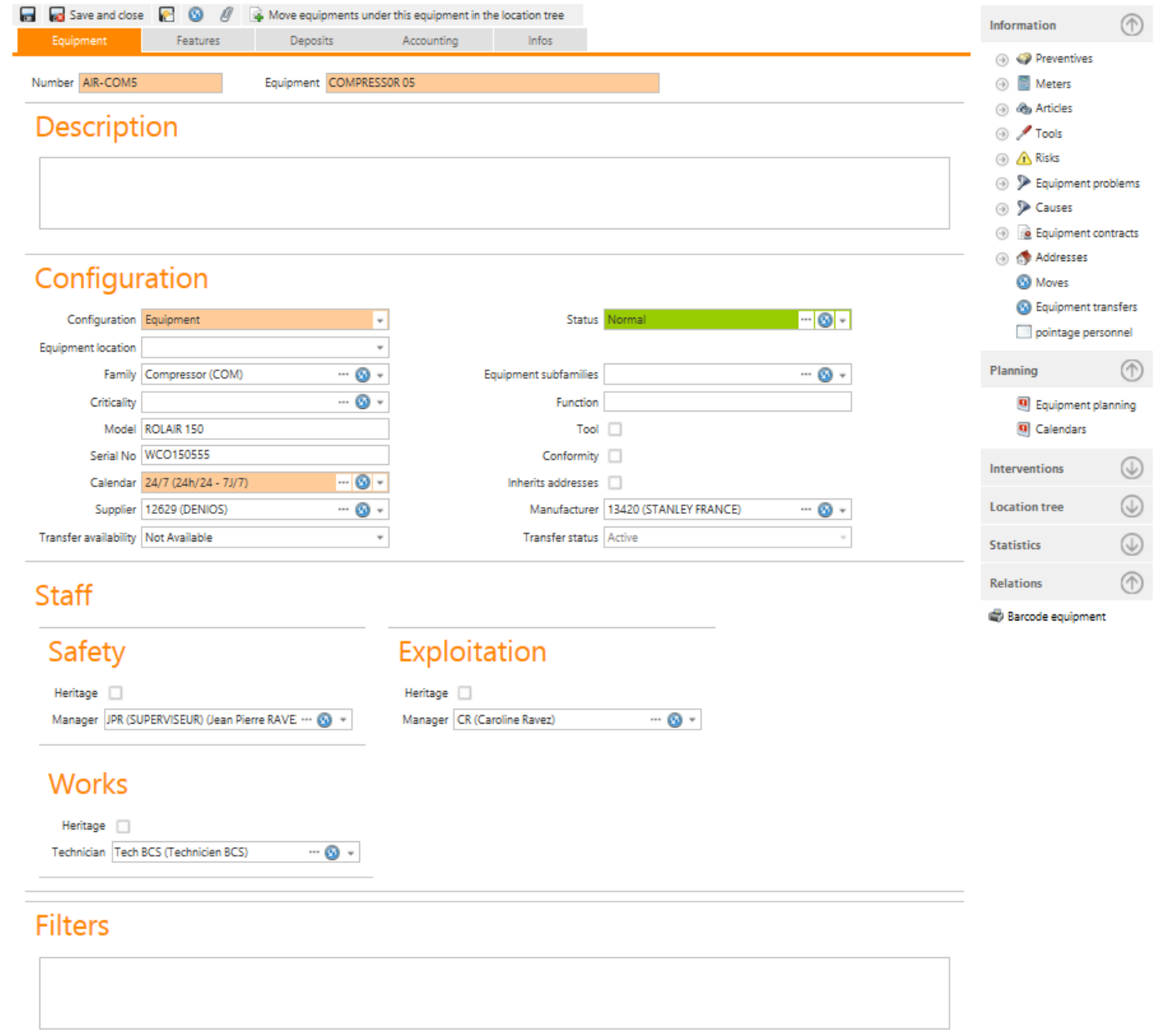
Tree views and equipments numbering:
Many of the functions are linked to the equipment tree view and the way it is numbered. Many of the filters and groups depend on the way your equipments have been organized and numbered.
That is why we recommend using a "tree view" style to number your equipments (e.g. L1 for the equipment in production Line 1, L1/M1 for Machine #1 in production Line 1, etc.)
For example, you could build a tree view like this:
Factory
L1: Production Line 1
L1/M1: Machine 1
L1/M2: Machine 2
L1/M2/S1: subset 1 machine 2
L1/M2/S2: subset 2 machine 2
...
L1/M3: Machine 3
...
L2: Production Line 2
...
...
If you have any questions, please don't hesitate to contact us.

Equipment Tab

This tab lets you input the main settings for each piece of equipment.

Below is a summary of each of the main fields in the tab.

Add/Edit



Number	Equipment number. This must be a unique number. It can be alphanumerical (max 255 characters). You can automatically number the equipments from equipment families and sub-families.
Equipment	Equipment name (max 255 characters).
Configuration	Defines whether the record is an equipment, a location, a network or a function. This field is used to regroup elements in the tree view.
Status	Equipment status (Normal, Poor, Out of Order).

Equipment location	Indicates the parent element of the equipment in the location tree view.
Family	The family. Useful for automatic numbering.
Subfamily	The subfamily. Useful for automatic numbering
Criticality	Criticality level of the equipment. A deadline for completion of the WO can be associated to this criticality.
Function	Function.
Model	Model.
Tool	Check this if it is a production tool.
Serial Nb.	Serial number.
Conformity	Indicates if the equipment respects its specifications sheet.
Calendar	The calendar shows the equipment's operating time. It can be used to identify downtime. Maintenance tasks can also be linked to the calendar.
Inherits addresses	If checked, automatically receives addresses from the parent equipment in the location tree view
Supplier	Supplier
Constructor	Constructor
Transfer availability	In the multi-site version, equipments can be transferred between sites via the equipment clearing house. Select the value "Available" for equipments that are authorized for transfer.
Transfer status	In the multi-site version, shows the current transfer status (e.g. active, loaned, sold…).
Safety staff	Allows you to identify the safety manager. This person can be linked to different steps in the Workflow validation process. Check the "Heritage" box to automatically inherit safety manager from the parent equipment in the localization tree view.
Operation staff	Allows you to identify the operations manager. This person can be linked to different steps in the Workflow validation process. Check the "Heritage" box to automatically inherit operations manager from the parent equipment in the localization tree view.
Works staff	Allows you to identify the technician who will be automatically named in Work Requests and who will be planned in the Word Orders. Check the "Heritage" box to automatically inherit work staff from the parent equipment in the localization tree view.
Filters	Let's you choose other equipment names that can be used as filter criteria to perform equipment searches.

Features Tab

This tab lets you input the specifications for each element of equipment.

Clicking on the  button in the middle of the screen lets you input new equipment specifications.

Below is a summary of each of the main fields in the tab.

Type	To make it easier to link features and equipment, you can create different types of equipment to which you can link a list of features and articles. When you link a type of equipment to an element of equipment, you can add features to the equipment or replace them (by clicking on the corresponding button on the right of the equipment type).
Order	The order in which the feature appears.
Feature	The specification type
Value	Value for the feature
Unit	Unit each feature is measured in (e.g. m^3/H, Bar, liter…).

A picture of the equipment can be inserted in this tab. The image will be included in the attachments that are selected as "default". Authorized formats are: .jpg, .gif, and .png.

Instructions Tab

This tab lets you input any special instructions to be followed before any maintenance is carried out on the equipment. The instructions then appear in the WO for the equipment.

Accounting Tab

This tab lets you input information related to equipment purchases (purchase date, warranty…) and to the equipment's depreciation.

In the multi-site version, the origin of the equipment includes the origin of equipment that has been loaned or sold by another site

The "Cost allocation" field allows the equipment to be imputed in a cost allocation.

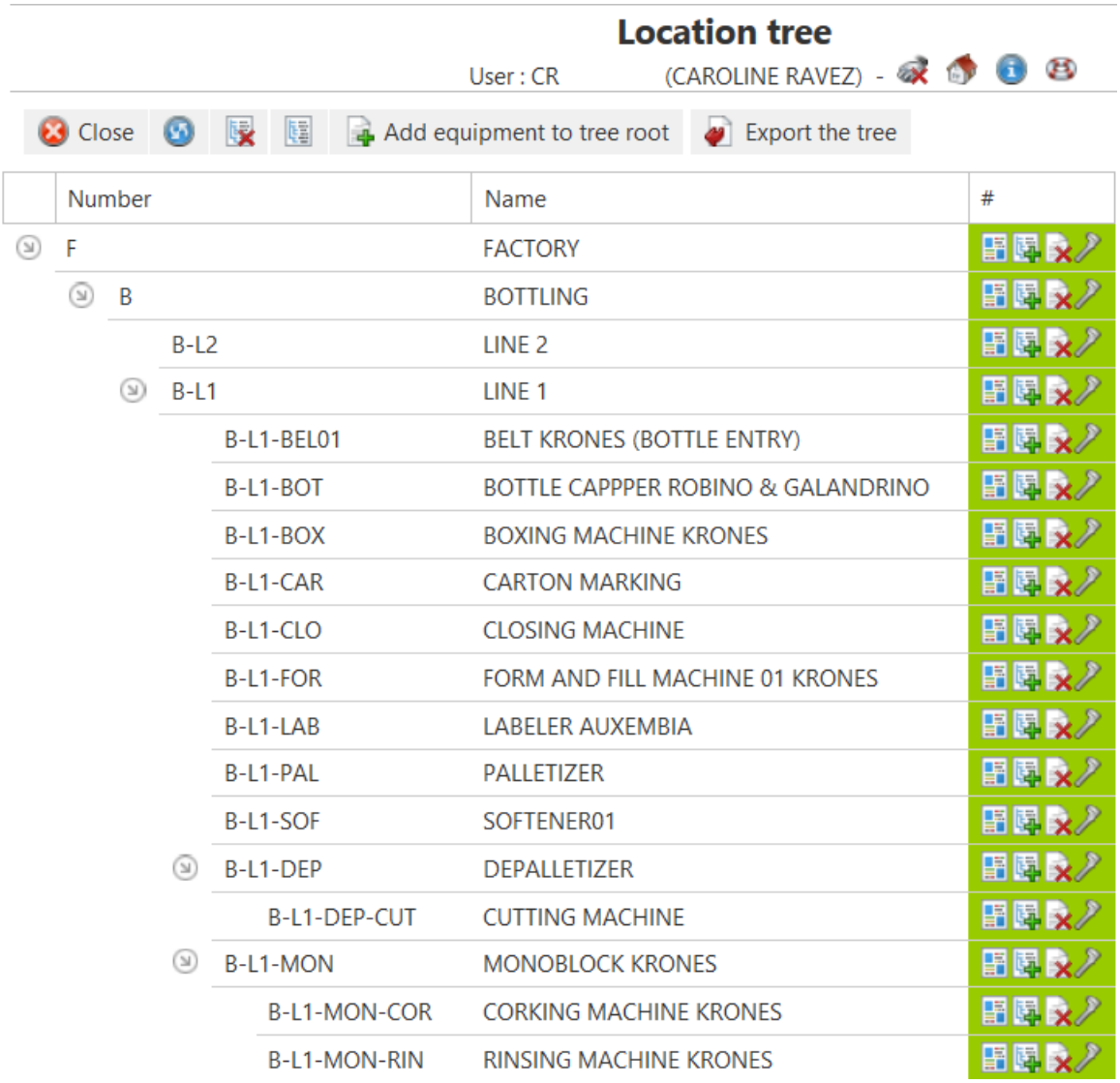
If you have a "customer" module, you can specify the customer associated with the equipment, the customer to invoice, and the invoice address. The invoice checkbox specifies whether the Work Orders related to the equipment will be billed.

Infos Tab

This tab includes the list of configurable fields that allow for the input of any other information. These fields are displayed in the search screen.

CHAPTER 3 / Tree view - equipment

Equipment can be associated with three different trees, as shown below.



Location tree

The “Location” tree allows the user to build and consult the equipment trees and create groups according to where the equipment is located.

To create a new branch in the tree, the user simply clicks on the “Add equipment to the tree root” button in the upper tool bar.

To the right of each line of equipment in the tree, there are five buttons:

- The first button allows the user to add equipment to the selected tree branch.
- The second button allows the user to consult the detailed equipment sheet for the selected equipment.
- The third button allows the user to consult the BOM articles for the selected equipment.
- The fourth button allows the user to delete the selected equipment from the tree.
- The fifth button lets the user generate a work request for the selected equipment.

Function tree

The “Function” tree allows the user to build and consult the equipment trees and create groups according to the associated functions.

The tree levels are built with equipment for which the “settings” field has a value equal to “function”

To create a new branch in the tree, the user simply clicks on the “Add equipment to the tree root” button in the upper tool bar.

To the right of each equipment line in the tree, there are five buttons:

- The first button allows the user to add equipment to the selected tree branch.
- The second button allows the user to consult the detailed equipment sheet for the selected equipment.
- The third button allows the user to consult the BOM articles for the selected equipment.
- The fourth button allows the user to delete the selected equipment from the tree.
- The fifth button lets the user generate a work request for the selected equipment.

Network tree

The “Network” tree allows the user to build and consult the equipment trees and create groups by network.

The tree levels are built with equipment for which the “settings” field has a value equal to “network”

To create a new branch in the tree, the user simply clicks on the “Add equipment to the tree root” button in the upper tool bar.

To the right of each equipment line in the tree, there are five buttons:

- The first button allows the user to add equipment to the selected tree branch.
- The second button allows the user to consult the detailed equipment sheet for the selected equipment.
- The third button allows the user to consult the BOM articles for the selected equipment.
- The fourth button allows the user to delete the selected equipment from the tree.
- The fifth button lets the user generate a work request for the selected equipment.

CHAPTER 4 / Functions menu

Preventive maintenance

This menu displays the list of preventive maintenance tasks scheduled for the selected equipment. It is also possible to schedule maintenance in this menu. We will discuss the menu more in detail in *PART 4: WORK MANAGEMENT, CHAPTER 2 / Preventive maintenance.*

Counters

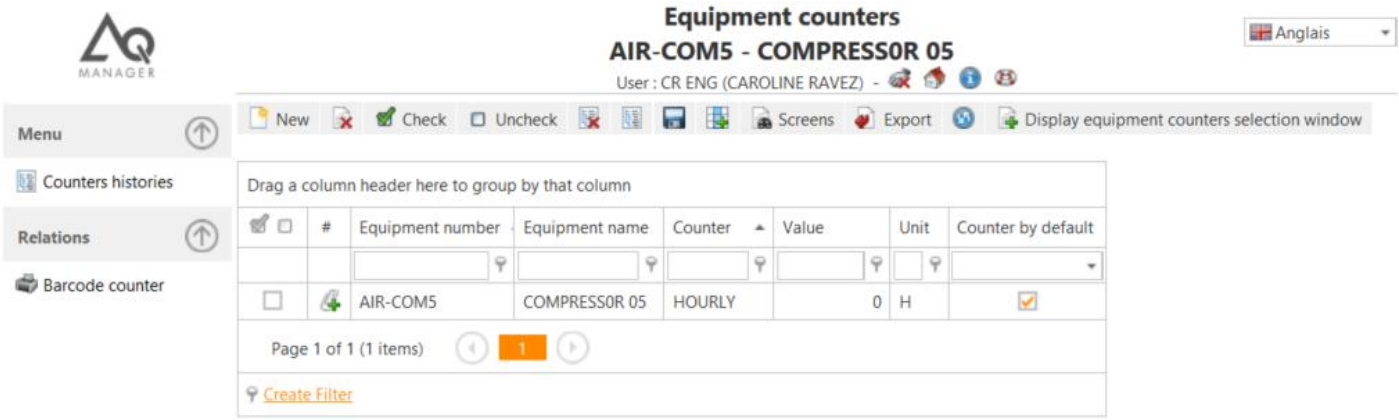
Counter settings

The counter screen allows the counters to be set and managed. You can link more than one counter to any equipment. These counters are also used to schedule preventive maintenance on the counters.

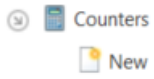
To link a counter to an element of equipment, open the counter screen from the equipment sheet.

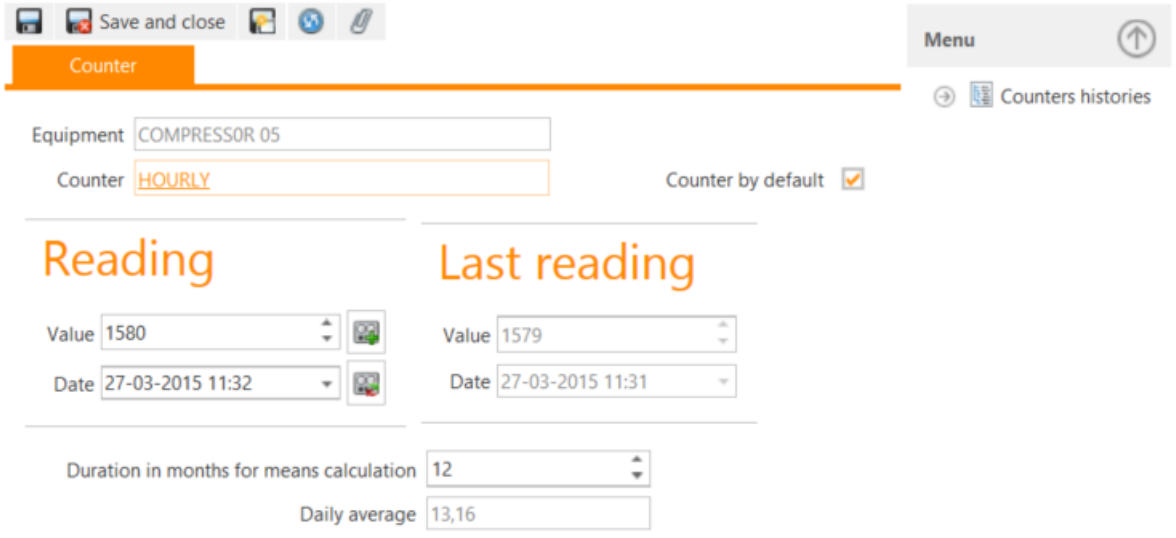
In the counter screen you will see the list of counters linked to the equipment.

To link a new counter, click on the New button.



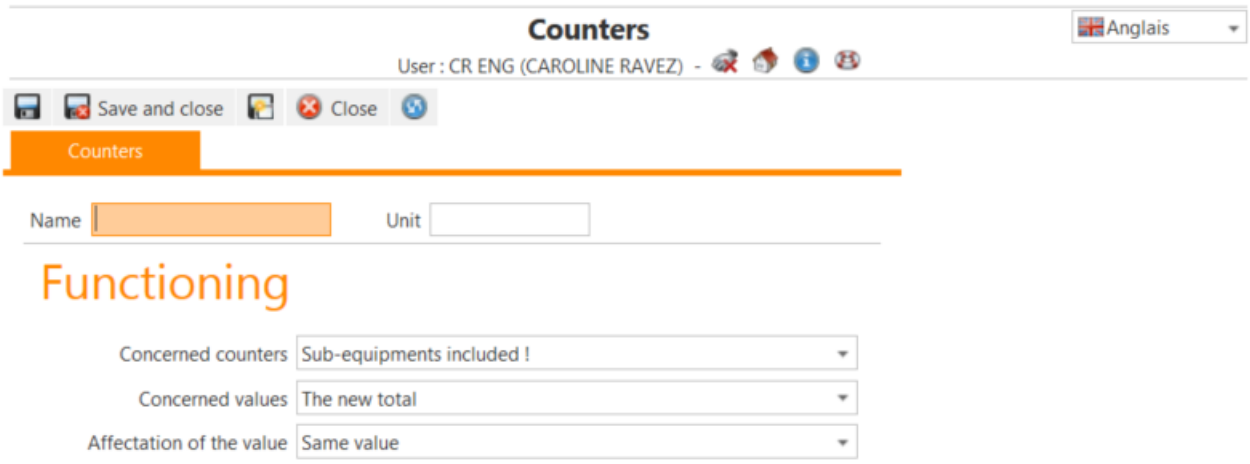
You can also link a counter directly to an equipment from the menu, by clicking on New in the sidescreen menu in the editing screen for the equipment.





You can choose a counter in the dropdown list or create one by clicking on the button … shown below

This takes you to the list of counters. You can then create a new one  or modify an existing one.



Concerned counters	Defines whether to update a counter for the equipment or for the equipment and its sub-equipments
Concerned values	Defines whether counter value will be the new value for the counter or the difference between the last reading and the new one.
Affectation of the value	Can be used if you choose “Include sub-equipments” in the “Concerned counters” field above. Defines whether the same value or the same interval will be applied to the sub-equipment.

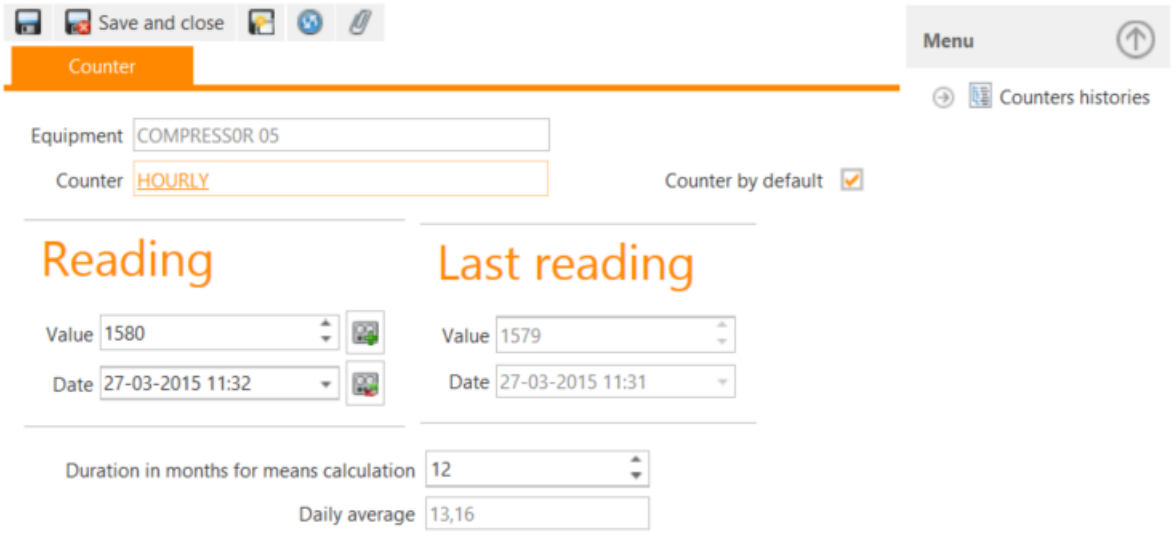
When you have chosen the counter and the options to use, the window expands to display a counter reading input frame. This is where the readings are entered.

Counter Readings

There are three ways to read the counters:

- In the counter screen, or
- In the fast entry counter screen, or
- In the intervention report screen.

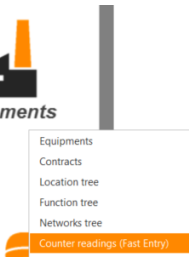
To access the counter reading screen, choose the “counter” menu in the equipment screen menu. This opens the window with the list of counters linked to the equipment. Double-click on the counter you want to update.



The last reading is shown on the right side of the window. The current reading can be entered in the line on the left side of the window. The current date is indicated by default but can be modified. When the reading has been entered, click on  to confirm.

To reinitialize the counter, click on  .

The fast entry counter screen can be accessed from the equipment menu screen.

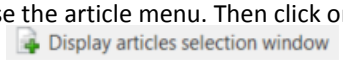


The counters can also be read from the Daily interventions single task screen. This will be discussed further in *PART 4 : WORK MANAGEMENT, CHAPTER 5 / Intervention reports*

Articles

This menu lets you access the article BOM for each equipment. Articles can be added in several ways:

- In the equipment screen: choose the article menu. Then click on 

to add an article. If you want to add several articles, you can click on 

which opens a selection window.
- In the article screen: choose the equipment menu. This menu is symmetrical to the article menu described above. The procedure is the same but this time you are looking for the equipment to link and not the opposite.
- Automatically: as articles are used in work orders, the article –equipment links will be created.

Tools

Reminder: a "tool" is an element of equipment that is defined as a tool by checking the "tool" checkbox in the main tab of the equipment editing screen. The tools menu in the equipment screen lets you manage the links between equipment and tools. To link equipment to a tool, open the equipment sheet, click on the Tools menu, then on "New" to add the tool.

When the tools have been linked to the equipment, you will find them in the tools list and you will also see the link in the "Information" menu by expanding the Tools level.

Risks

The Risks Menu lets you associate each equipment with a work type and then to link a risk to it.

Therefore, when a work order is generated for the equipment, if the associated work type is scheduled for the intervention, the risk will automatically be displayed along with the precautionary measures required.

Number	Risk ID number; must be unique.
Work type	In the work type list, choose the work type you want to link to the risk. The work types are relisted in a specific table in which new work types can be added.
Risk	Risk name. You can create a new name if needed.
Cause	The source of the risk
Prevention measures	What must be done to avoid the risk.
Severity	Seriousness of the risk; you can create a list if needed.
Occurrence	How often and with what probability the risk will occur.
Risk level	Classification of the risk level, according to the severity and its occurrence. You can create a list if needed.

Equipment Problems and Causes

In this menu, you can associate a list of problems and a list of causes to an element of equipment.

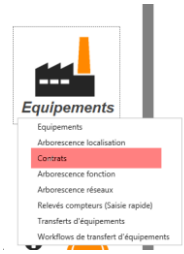
These problems and causes, with their associated remedies, will create a diagnosis tree and generate AMDEC analyses (Statistics menu, Diagnosis button).

The problems, causes and remedy are managed in tables that are specific to the AQ Manager Full Web application. For these three tables, you can regroup the records by category. These categories are managed in the Problem categories, causes categories and remedy categories tables.

The Problems menu and the Causes menu in the equipment sheet let you link certain problems and causes to a specific element of equipment. In this way, when preparing a intervention report, the dropdown lists will only show the problems and causes related to the equipment involved. This makes it easier to use the selection. There is no link to remedies because they are usually common to several pieces of equipment, so these will all be found in the dropdown list no matter which equipment is concerned.

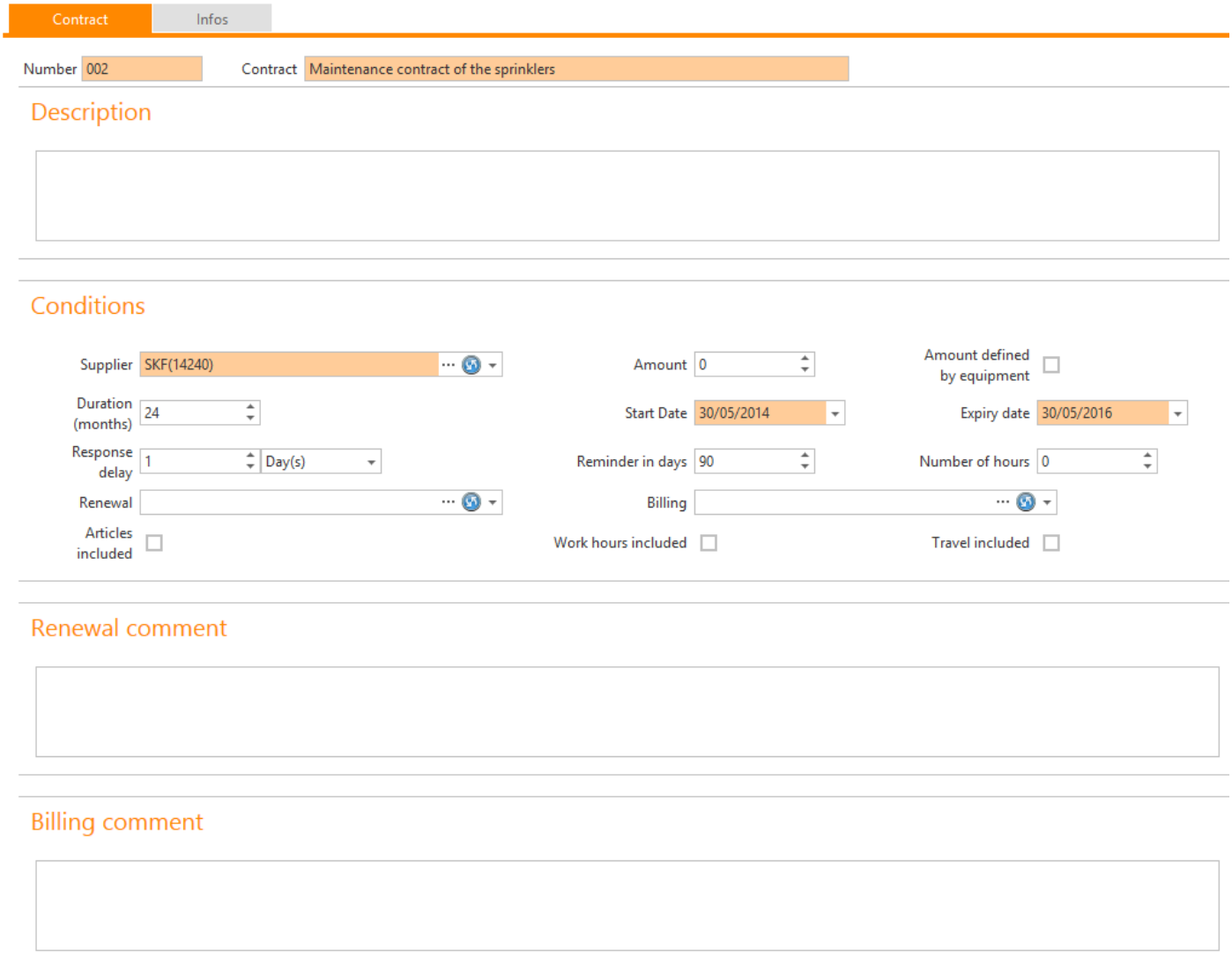
Equipment contracts

Linking a maintenance contract to a particular element of equipment lets you manage the maintenance operations carried out by sub-contractors. This way you can follow up on all the maintenance carried out under each contract and evaluate the results. You can associate several contracts to the same equipment and several pieces of equipment to the same contract.



To access the contract search screen Click on “Contracts” in the Equipment Menu. You can edit each contract in the search screen by double-clicking on the specific line for a contract.

Contract Tab



Number	Contract number
Contract	Contract title
Description	Open description of the contract
Supplier	Supplier associated with the contract
Amount	Total agreed payment for the contract
Amount defined per equipment	If checked, breaks down the total paid for the contract to the value for each element of equipment, rather than showing an overall total.
Number of hours	Number of service hours provided for in the contract

Duration (months)	Total length of the contract
Start / end dates	Shows the dates on which the contract begins and ends. If you change the duration the dates automatically adapt and vice versa.
Response time	Time allotted the subcontractor to perform the operations, as per the contract.
Reminder (days)	Scheduled date of the contract renewal reminder. AQ Manager Full Web generates an alert when the contract is nearly up, in function of the number of days defined in this field.
Renewal	Type of contract renewal (configurable list).
Billing	Type of billing (configurable list)
Articles included	If checked, the articles included in the contract.
Work hours included	If checked, the services included in the contract.
Travel included	If checked, the travel expenses included in the contract.
Renewal comments	Open comments about the renewal.
Billing comments	Open comments about the billing

Info Tab

This tab displays the list of configurable fields that allow the user to input open commentary. These fields are available in the search screen.

Contract-Equipment Association

When the contract has been input, it must be linked to one or more elements of equipment. This association is done either from the Contracts screen or the Equipment screen. You can also input this association when creating tasks. We will discuss this point further in the chapter on tasks: *PART 4: WORK MANAGEMENT, CHAPTER 1 / TASKS ANDARRAYS*

To define an association from the Contracts screen or from the Equipment screen, you need to select the Contracts menu. In the screen, create a new record by clicking on Nouveau. Depending on which screen you use as access (contracts or equipment), choose either the contract or the equipment to link to and define the start date.

If one or more links have been set up, they will be visible in the sidebar menu.

Addresses

Used to input one or more addresses for an element of equipment.

The Address Categories table lets you regroup addresses by category.

Movements

You can move equipment within the location tree view. To do this, move the specific equipment to the tree using the click and drag feature (left-click on the article you want to move, hold the click and drag the article where you want it, then release the click.)

You can also create a movement in the Movements menu. The Equipment Movement screen will open to the movement history for that equipment. To move equipment, click on the Nouveau button and choose the destination equipment and the movement date.

Equipment transfers

This menu lets you transfer equipment from one site to another. To do so you must have a multi-site license.

CHAPTER 5 / Equipment appendices

Equipment families and sub-families

The tables containing the equipment families and sub-families let you set up groups of equipment (e.g. Motor, Pump…). Families and sub-families can automatically number equipment; for this you need to set a prefix (for example, “MECA”) and a general number (for example, “001”) that will be incremented in order to obtain a numbering such as “MECA-001”. These families can be used as filters in the AQ Manager Full Web application.

Calendars

The calendars table lets you set up different operational calendars for the equipment. These calendars are used in various statistics such as the MTBF calculations (average time between two breakdowns), downtime during maintenance operations, etc.

Each calendar has customizable weeks (called standard calendar weeks) in which you can input the operational schedule from Monday to Sunday.

These operational schedules can also be spot-changed from the “Calendar Exceptions” screen, which can be accessed in one of the sidebar menus in the calendar screen.

Standard calendar weeks

The table of standard calendar weeks lets you schedule the operational times from Monday to Sunday. These weeks are used in the calendar screen.

Calendar exceptions

The table of calendar exceptions allows the user to see the details of any exceptions to the operating schedule for each element of the equipment. This screen allows spot changes to be made to the operating times by selecting a period and clicking on the “Modify schedule” button at the top of the screen.

You can also set the production downtime for each element of equipment by opening the time period with a right click.

Equipment states

The equipment state table lets you input the different operating conditions for an element of equipment (e.g. normal, poor, out of order…). Each state can be associated with a color code which is used in the application indicators.

Equipment criticality

The equipment criticality table allows the user to input the criticality level for each element of equipment. A maintenance deadline can be used as a priority for each level of criticality.

Features

The specifications table allows the technical specifications to be input for the equipment and articles. For each specification, you can add a list of values separated by a semi-colon.

Equipment types

The table of equipment types allows the user to create groups of equipment by type.
Each type can have related lists of features and articles. When an element of equipment is linked to a type, the AQ Manager Full Web application can automatically update the specifications and the articles for the type in the equipment screen.

Imputations

The imputations table lets the user input accounting imputations. These imputations can be related to equipment, articles, WO, customer orders…

A follow-up of the expenses for each imputation is provided in the AQ Manager Full Web application.

PART 3: MANAGING YOUR STOCK

CHAPTER 1 / Fundamental concepts of stock management

Introduction

Any consultant who is called in to assist a company will not risk much in saying that the stock has to be reduced. Stock is everywhere. It clutters areas that are needed for other activities. It is represented by a sum in the balance sheet whose reduction would greatly improve the firm's financial situation. Yet correct inventory management would allow the stock to be reduced and perhaps even eliminated altogether.

The types of stock that cohabitate in a single company are many and varied. Schematically, we can distinguish:

- Stocks of raw materials and every other thing needed for production, basic articles, devices, different ingredients…
- Stocks of finished goods waiting to be sold or main components that are assembled as orders come in to make customized products
- Stocks of products destined for quality control labs, reagents, glassware …
- Work in progress, which is usually kept temporarily in production area stockrooms or near the production machines
- Components and after-sales service articles
- Spare parts and special tools needed for maintenance
- Stationary and other consumables which the modern business consumes in great quantity, including printer paper despite the generalization of « real-time » handling that is supposed to take place totally on computer screens
- Cleaning and other various products in the general stores.

Creating these stocks always responds to a need or a convenience. For example:

- Meeting unexpected requirements or those for which the lead times are not long enough to allow the articles to be obtained normally;
- Tiding the company over between two steps of production and sales which take place at different speeds.

Stocks can also come from the production line itself, in particular when batch production methods are used to avoid frequent changes in the machine settings.

In general, companies tend to consider stock as something akin to machine oil: it makes operations run more smoothly and helps production flow without any pitfalls. Thus, though keeping stock is a bad thing because it is also expensive, it is nevertheless a necessary evil. But this viewpoint is changing, influenced by Japanese ideas, in which stock keeping is considered rather as an anathema.

If you give it serious thought, you will come up with a lot of solutions to keeping a large stock.

Stocks of equipment articles

We can reduce the number of articles in stock through correct knowledge of our machines, which itself is gained through the implementation of a rigorously-organized maintenance procedure (machine follow-up sheets, preventive maintenance, etc.).

Giving thought to the production equipment as a whole can also help the machine pool evolve towards a composition that is more favorable to faultless operation. For example, by reducing the number of unnecessary types of machinery, more articles will be suited to several machines. It could also be interesting to install machines which have more modest performance but which are extremely sturdy and on which you can perform all the operations that do not require a high level of technological characteristics.

Stock keeping

The stock keeping function is designed to provide information, either permanently or at regular intervals, about the precise quantity of each article kept in stock. This basically means the quantities currently available and in general the amounts used over the most recent periods. This information must be provided as individual article references and not just at the family level that is often sufficient for cost accounting with respect to the value of the stock kept. To do this, each article has to be clearly identified.

Identifying articles

Every article has a name that can sometimes be sufficient to identify it. But more often than not this name is too imprecise for that purpose, or the product is too complex to be identified in only a few words. Therefore, a *true product specifications sheet* is necessary, with full description, reference to the origin of the product or of the materials and components it is made of, references to drawings and plans, routings, etc.

Each *product specification sheet* should be written in a standardized manner in which the registry key is a code called the *product code*.

Before the arrival of computers, coding was a significant problem because the code was used not only to identify articles but also to classify them. The main advantage of an identity key is to be invariable in time so that you don't have to set up a mammoth amount of organization to allow the old keys to be correlated to the ones that replace them, whereas a classification code can always be changed as the business and its activities evolve. IT now allows the creation of a specialized article identification code and also the creation of as many auxiliary codes as there are classification criteria.

The identification code can be a simple number with no special signification, as long as the reference is clearly unequivocal: a given number can only designate a single article, and a given article only has one number.

However, it is convenient to give the code a certain signification, or in other words, to also give it a particular role in the classification of the article within a larger family, as long as this is not carried too far. Indeed, this allows you to obtain a computer-generated, simplified designation that can help employees avoid major errors and will also let you have listings that are more reader-friendly in that they are summarized according to family. The criteria to adopt for this *classification* function should be the element of the article that represents its most permanent specification. The other criteria of interest to the company – the article's use, the type of machine it is fitted to, where it is stored, its administrative status, etc. – represent as many auxiliary codes.

The structure of the identification code is the result of a compromise between several contradictory concepts.

- *Numeric or alphanumeric code.* A numeric code allows for verification to be more easily performed as it totalizes the codes for a group of transactions, whereas an alphanumeric code needs fewer characters to represent the same number of articles. Shorter codes are easier to duplicate without error.
- *Tree view or sequential structure*. Tree view structuring lets the user display the classification, with, for example, the first character representing the class, the second the sub-class, etc. Sequential structuring allows the user to automatically create the numbers, which means far less risk of attributing the same code to two different articles. However, in sequential structuring, there is still a significant risk of duplication errors and of accidentally relisting already-existing articles, when the same sequence of attributed numbers is used. With tree view structuring or sequential structures with sufficient spacing between the numbers, many errors will designate nonexistent articles and can therefore be easily seen and corrected.
- *Codes with fixed or variable code length.* The most compact code is the one for which the first article that is listed has #1, the second #2, and so on. And you can also prefer to use sequences with numbers of equal length, which allows you to immediately pick up errors in length in a fillable form or a screen field.
- *The code's relevant indicator*. In principle, it is more comfortable to use relevant indicators than meaningless numerical sequences. This also reduces the risk of error, since the employee will often be able to see that a particular character does not correspond to the type of article the code is supposed to represent. However, the greater the number of relevant indicators, the slower the coding operations will be, due to longer queries that require more information for the response. As for validation errors, they can only be detected by the employee if the latter knows the character by heart, which limits the number of possibilities. Thus, as already discussed, it is better to use a motiveable number of relevant indicators.

Recording stock movement

The basic equation is always the same: former stock + putaway - consumption = new stock.

Applied successively for each reference, this gives rise in practice to a great many variations, especially depending on what is done after each movement or at the end of the period with separate totals for the stock entered and the stock consumed.

It seems at first glance that the ideal situation consists in real-time updating, which would provide permanent information on the stock levels for all the articles individually.

Valuated stock

Categorizing stock with respect to its value is part of cost accounting. It is therefore distinct from merely keeping records of the stock in the warehouse. But as a lot of data are common to both procedures, there is an increasingly-greater trend towards combining them and thus adding cost elements to the *stock records.* The operation can be simpler or more complex depending on the type of valuing method used by the company.

Weighted average unit price (WAUP)

This is the most frequently-used method. It consists in valuating the cost of articles withdrawn from the inventory at a unit price that is equal to the average of the original stock and the stock put away, weighted by quantity. In practice, this requires keeping two distinct and parallel accounts to record the evolution in the quantities and that of the global value, for the same article. We thus have, permanently or periodically, a number of units in stock and a corresponding value, with which we can obtain, through division, the unit price that serves in particular to determine the value of the articles removed.

As a basic example, let's take the following stock movements, for an article which had 100 units in stock on January 1, at € 1.50 / each:

- January 24, putaway 300 units at €1.56,
- February 8, 80 units withdrawn
- March 16, 140 units withdrawn,
- June 11, putaway 150 units at €1.60,
- August 11, withdrawn 130 units,
- September 6, withdrawn 110 units,
- October 15, putaway150 units at €1.70,
- December 29, withdrawn 140 units,

The quantitative follow-up of these movements does not present any problem.

DATE	PUTAWAY	WITHDRAWN	STOCK
1/1			100
24/1	300		400
8/2		80	320
16/3		140	180
11/6	150		330
18/8		130	200
6/9		110	90
15/10	150		240
29/12		140	100

The results will be as follows:

Stock value	1.50 x 100 = €150
Putaway value	1.56 x 300 = €468
Total	400 €618

Follow-up by cost is not as simple to do, since for each entry you have to calculate the average cost of the articles in stock as well as those delivered. For example, regarding the articles put away on January 24:

By dividing €618 by 400 units, we get an average unit cost of €1.55 which will be used to attribute a value to the next two withdrawals:

- February 8 1.55 x 80 = €123.60
- March 16 1.55 x 140 = €216.30

A new cost will be determined after the June 11 delivery, by calculating the average between the value of the existing stock:

- (618 – (123.60 + 216.30)) = €278.10

And that of the 150 units put away:

- 1.60 x 150 = €240.00

For a total of €518.10, to be divided by 330 (the number of units in stock), giving €1.57.

We continue in this manner to the end of the year, which gives us the following summary of the movements by value:

DATE	PUTAWAY	WITHDRAWN	STOCK	DATE
1/1			150.00	1.50
24/1	468.00		618.00	1.55
8/2		123.60	494.40	1.55
16/3		216.30	278.10	1.55
11/6	240.00		518.10	1.57
18/8		204.10	314.00	1.57
6/9		172.70	141.30	1.57
15/10	255.00		396.30	1.65
29/12		231.18	165.13	1.65

The figures in this example are such that the average costs do not vary excessively. Moreover, the prices are presumed to be known at the same time the new average is calculated. This is not always true in practice, when it is often necessary to withdraw the articles at the former price because the supplier invoice has not yet arrived. But if the new price is much higher than the old one and if the new cost is calculated at a time when the stock is low, this gap could result in an average cost that is totally unrealistic and unrelated to the former one.

This can be illustrated if we imagine that the 140 units withdrawn at the end of December had a value of €1.57 because the new price was not yet known. The accounting value for the stock was therefore:

141.30 + (150 - 140) x 1.57 = €157

But in reality the cost of the 150 units was higher. Therefore we have to correct the stock by adding the difference:

(1.70 – 1.57) x 150 = €19.50

The remaining 100 units have a value of:

(157 + 19.50) / 100 = €1.77

The difference is not a negligible one and would have been far greater if there had been less stock remaining. You can also receive invoices that are not directly related to deliveries, for example for insurance or middleman fees. There is, theoretically, no limit to the phenomenon, because if there had been no remaining stock at all, the unit cost would be mathematically infinite. When it does occur, this phenomenon means that the warehouse manager has to wait for an increase in the stock of the article to be able to change the price.

This is even more plausible in that you can rarely calculate a new price after every movement. Indeed, it is nearly impossible to do this when warehouses have millions of articles in stock, which means hundreds of movements every day. Therefore, it is sufficient to revise them periodically, every week or every month, and more rarely every year. It's important to be simple. If in our example we imagine only one revision, we just have to cumulate the initial stock and all the entries, thus giving us:

- In quantity 100 + 300 + 150 + 150 = 700 units
- In value 150 + 468 + 240 + 255 = €1,113

The average cost, which will be used over the next year, is obtained by dividing these two figures into each other, to wit: 1,113 / 700 = €1.59.

This method using averages over a longer or shorter term gives the prices a certain stability which the users appreciate because they facilitate the establishment of provisions. The downside is that when prices become unstable, the ones used in the warehouse can be much lower than in reality, which can lead to errors in cost analysis. This can also lead to over-evaluating the stocks at the end of the year and consequently increasing the fiscal benefit and the corresponding taxes.

Weighted average price is therefore a rather complicated system as it often leads to problems because of the relative separation that exists between stock records and cost accounting.

Last known price

This is a method that simply values the stock and the withdrawals at the price of the article at the last delivery date. Only the quantitative movement is recorded, and each time the new stock is multiplied by the last price. This price is usually easy to find and record on the accounts sheet or in the computer program. It's therefore very easy to use. The table below illustrates this method in our example.

DATE	PUTAWAY	WITHDRAWN	STOCK	UNIT COST
1/1			150.00	1.50
24/1	468.00		624.00	1.56
8/2		124.80	499.20	1.56
16/3		218.40	280.80	1.56
11/6	240.00		528.00	1.60
18/8		204.00	320.00	1.60
6/9		176.00	144.00	1.60
15/10	255.00		408.00	1.70
29/12		238.00	170.00	1.70

Calculation is immediate and the method has everything it needs to seduce the stocks accountant. But on the average it leads to over-evaluation of the value of the stock and the withdrawals, which creates gaps that will probably need to be filled in at the end of the period. Moreover, re-valuing the stock at every delivery creates a capital gain that has to be recorded in the accounts, as in the 100 initial units which suddenly increase from €150 to €160. This ends up as an increase – perhaps even a big one – in the capital gains tax.

Filling in the gaps cans also often be done with the help of price coefficient used for all the articles in the same family, which helps to simplify the operations to some extent.

Standard price

This is the most evolved system, which allows the user to avoid the previously-discussed complications. For each article, a unit price is set that will be used as the value for all movements be they putaway or withdrawal. If these unit prices stay sufficiently close to the real process and if there is no need to correct them during the period, then stock value accounting theoretically becomes useless since all that is needed at any time is to multiply the quantity of stock or the amount moved by the standard price, which is a simple and invariable coefficient, to obtain the value of the stock or the movement.

In this system, the accounting method records, in a rather general way, the gaps between the stock entries at the standard price and the invoices entered in the expense accounts. The balances for these accounts will be used, if needed, to reconcile the stock entry in the balance sheet.

Let's look at our example again. For a fixed standard price of €1.60, we obtain the results in the table below:

DATE	PUTAWAY	WITHDRAWAL	STOCK
1/1			160.00
24/1	480.00		640.00
8/2		128.00	512.00
16/3		224.00	288.00
11/6	240.00		528.00
18/8		208.00	320.00
6/9		176.00	144.00
15/10	240.00		384.00
29/12		224.00	160.00

This is an excellent method, but unfortunately it can only be implemented in a satisfactory way by a company that can make correct forecasts and translate them into a well-established budgetary system.

The choice of one or the other method of valuating stock is made in the application settings. These settings are linked to the site and the choice can be made in the site screen. See *PART 5: SETTINGS – CHAPTER 5 / Sites and Languages*. It is also possible to define a valuation method that varies with the stockroom or warehouse. If the method used to valuate stock in one warehouse differs from the generally-used method, it must be changed in the warehouse screen.

Physical counting aka Inventory

Whatever the level of perfection in the stock keeping method, it would quickly drift away from reality if the accuracy of the figures was not verified from time to time by comparing them against the existing physical stock. Legally, you are required to do an inventory at least once a year, and this activity must be carefully organized so as not to introduce errors that would then have to be corrected.

There are often very large numbers of articles to be counted, with some having very similar specifications that could be easily confused, and stockroom conditions are rarely satisfactory.

First of all, you should not wait till the end of December to do the inventory of all the stock, but rather do it throughout the year. For example, some families of articles could be inventoried in January, others in February, etc.

But this kind of rotating inventory requires care. Counting the article in a series of compartments or a rack of shelves takes time, during which business operations continue, of course. Now, even if the stock keeping is done in real time with computer terminals in the stock room itself, many times the computer does not keep track of all the withdrawals of stock. If there is a rush order, the administrative update may lag behind a little, not to mention warehouse staff that are (too) well organized and who systematically input the movements at the end of the shift or day, or who wait to have a sufficient number of vouchers in hand before inputting the information.

An inventory can shed light on false differences, since some withdrawals may have not been reported on the sheets. To get around this, the inventory operations must be very carefully prepared in order to take place in optimal conditions and as quickly as possible.

IT can let you pre-edit shuttle statements intended to be used to record inventory. These documents can show the theoretical stock and the last recorded movement.

Monitoring provisional elements

When monitoring the existing stock levels and the putaway-withdrawal movements, it can be tempting to add movements that have not yet occurred but which are expected with near-certainty. Indeed, you can have orders for which delivery is scheduled for a relatively precise date. The articles on these orders are the *pending* articles. There can even be articles that are set aside in the store room for a specific destination such as the production line. These are the *due articles.*

There is no reason at first to introduce the expected and due in the equation for the new stock that becomes:

Former stock + putaway + pending – withdrawals – due = new stock

In fact, this new equation only makes sense if the pending articles are actually delivered at a date which is in the relatively near future, and if the due articles themselves are delivered rather quickly. If this is not the case, it is only interesting if we use it period by period. Because the further we look into the future, the more uncertain the movements are, and it is not a good idea to simply add up elements with very different probabilities. But if we inventory provisional stock period by period the problem takes on another dimension because the volume is such that it can only be mastered by the use of computer software. This is the very principle of what is called M.R.P. (Material Requirements Planning), i.e., the scheduling of needed parts, and these systems are frequently used in production management when it comes to medium sized runs or finished products that require assembling several levels of parts or components.

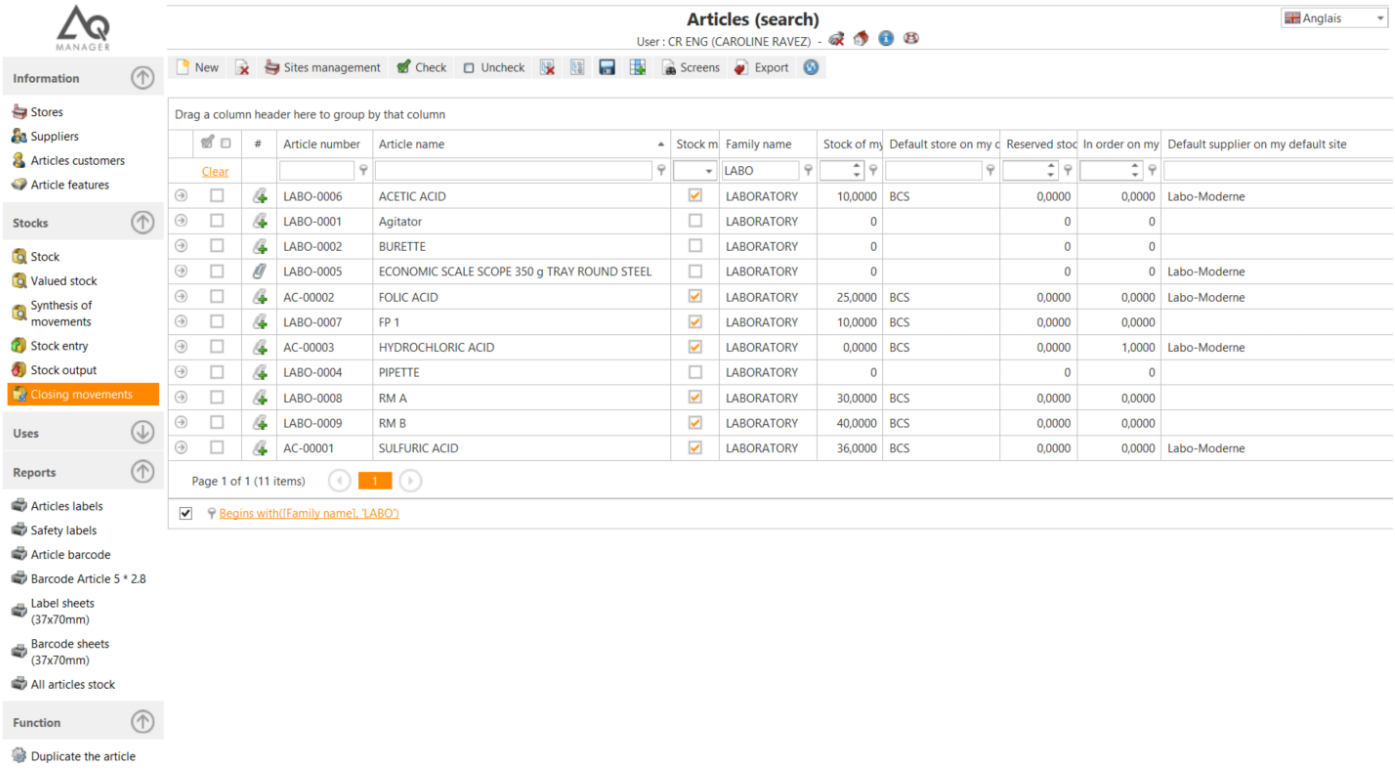
CHAPTER 2 / Article search screen

On this screen, you will find the list of articles managed with the AQ Manager Full Web. Like all the search screens, it can be modified by clicking on the button in the tool bar. It is also possible to apply a filter to this list.

A double click on a record in the screen will open the detailed sheet for that article. This screen is described in *CHAPTER 3 / Article screen.*

In this search screen, there is a sidebar menu (on the left) which we are going to explain here.

> ***Note:***
> Since this menu can be customized, like many other menus in the application, you may not find exactly the same links as those described below. Some may be displayed and not others.



Information

Important: the following articles are filtered via the article(s) selected in the search screen.

Stores

Displays the list of stores for the selected articles.

Suppliers

Displays the suppliers and the price of the selected articles.

Customers

Displays the customers and the price of the selected articles.

Article features

Opens the search screen for the articles by specification. This is a practical way of comparing the specifications of several articles at a glance.

Note: In this list, each article can be listed several times (one line per specification.) An article that has been given five specifications will therefore appear on five lines in the screen. The procedure used to attribute article specifications is explained in *CHAPTER 3 / Article screen.*

Stock

Stock

Displays the stock level(s) for the selected article(s). This allows you to see how much stock is available for the article(s), with the detail for each store and the location if applicable.

Valuated stock

Displays the valuated stock for the selected article(s). In this table, the groups are created by family and sub-family. For each article, each store and each location, a line displays the amounts in stock and their value according to the method of valuation selected in the settings of the AQ Manager Full Web application.

Synthesis of movements

Displays the screen showing the summary of all the movements for the selected articles (putaway and withdrawals combined).

Stock input

Displays the putaway history by article, by store and by location. You need to expand the desired branch in order to see the details for each store or location.

Tip:

You can expand the entire screen by clicking on the  button in the tool bar at the top of the screen.

You can also create a new putaway movement in the putaway screen. To do this, click on 

.

Putaway will be discussed in CHAPTER *4 / Stock movements.*

Stock output

Displays the withdrawal history. As with putaway, the movements are recorded by article, by store and by location.

As with putaway, you can also create a new withdrawal movement in the withdrawal screen. To do this, click on 

.

Withdrawal will be discussed in CHAPTER *4 / Stock movements.*

Closing movements

AQ Manager Full Web lets you carry out stock movements at a date that is earlier than the actual one. This allows for greater flexibility in recording movements. In this way, a transaction made after the end of the day can be recorded the next day while nevertheless inputting the actual date on which the articles were withdrawn. Closing movements let you end the periods and no longer authorize any input of movements prior to the closing date. Thus if you decide to close the movements today, it will no longer be possible to record stock movements on a date prior to today's date.

Note: Closing the movements speeds up the stock calculations.

Closings are done in the search screens for the storage locations or from the editing screen for a storage location.

Uses

WO reservations

Displays the list of articles reserved for Work Orders for the selected articles (CMMS Option, Benchmarking).

In orders

Displays the list of supplier orders for the selected articles (Purchasing Option).

In customer orders

Displays the list of customer orders for the selected articles (Sales Option).

In customer delivery

Displays the list of articles reserved for customer deliveries for the selected articles (Sales Option).

Test requests

Displays the list of articles reserved for test requests for the selected articles (LIMS Option).

Reports

Important: the following reports are filtered with respect to the article(s) selected in the search screen.

Articles labels

Opens the article label report for the selected articles.

Article barcodes

Opens the article barcode report for the selected articles (Barcode Option).

Article barcode 5 * 2.8

Opens the barcode report for articles sized 5cm x 2.8cm, for the selected articles (Barcode Option).

Safety labels

Opens the article safety label report (including pictograms) for the selected articles.

Label sheet (37x70 mm)

Opens the label report for A4 sheets of twenty-four 30 x 70 mm article labels, for the selected articles.

Barcode sheet (37x70 mm)

Opens the barcode report for A4 sheets of twenty-four 30 x 70 mm article labels with barcode, for the selected articles.

Function

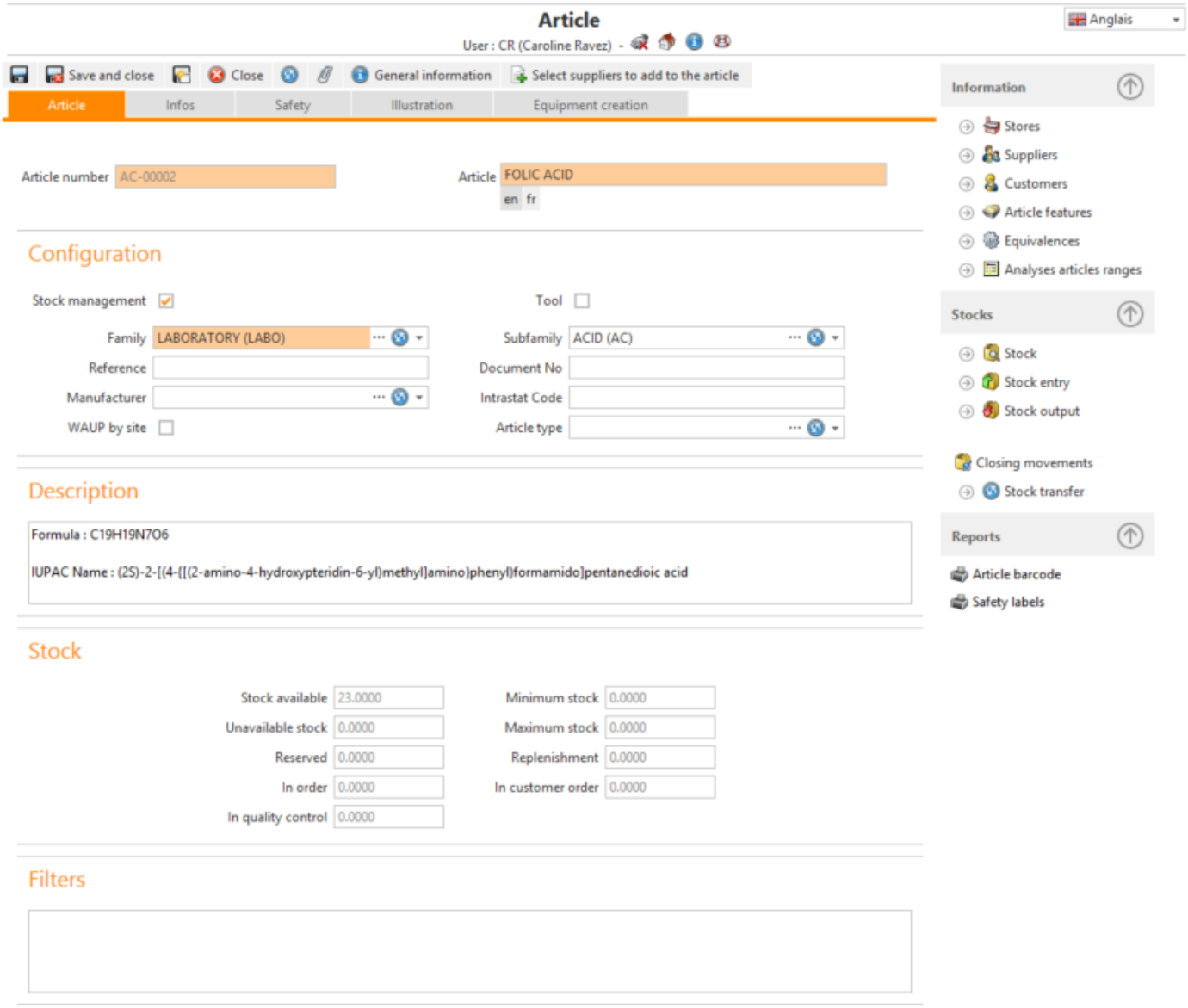
Important: the following functions are filtered with respect to the article(s) selected in the search screen.

Duplicate the article

Makes a copy of the selected article(s). The saved copy will have the same number as the original record, followed by a series of 6 numbers which ensures that the copy number is unique. The name of the article will also be made up of the original article name to which the word “copy” is added, followed by 6 numbers.

The “copy” text can be configured using the function “Duplication text of articles”.

CHAPTER 3 / Article screen



Article tab

This tab lets you input the main settings for each article.

Below is a summary of each of the main fields in the tab.

Article number	Article number (ID number). Must be unique.
Article	Article name.
Stock management	Is the article in stock? yes/no. Out-of-stock articles are useful for ordering articles you don't want to keep in stock but for which you want to define a supplier or customer price.
Tool	Is it a tool? yes/no.

Family	Family group for an article. Families let you obtain automatic article numbering.
Subfamily	Subfamily group for an article. The sub-families let you obtain automatic article numbering.
Reference	Constructor reference number.
Document Nb.	Refers to a document number, for example the quality manual.
Constructor	Article manufacturer
Intrastat code	Article intrastat code
Article type	Type of article, allows article grouping.
WAUP	The weighted average cost per unit is by default calculated per store. Check this box if you want it to be calculated per site. In that case, the article unit has to be identical at each site.
Description	Article description, which is longer than the name.
Stock	Displays the global amount of stock (for all stores) and of its management settings.
In stock	Displays the available stock for all stores.
Out of stock	Displays the articles which are out of stock for all stores.
Reserved	Displays the amounts reserved for Work Orders (CMMS Option, Benchmarking) or test requests (LIMS Option.
Supplier orders	Displays the amounts ordered from suppliers (Purchasing Option).
Quality control	Displays the amounts reserved for quality control, and the articles for which there is a current test request (LIMS Option).
Minimum stock	Displays the minimum stock level. This is a total of the minimum stock levels in the different storage locations. You can modify this in the stores.
Maximum stock	Displays the maximum stock level. This is a total of the maximum stock levels in the different storage locations. You can modify this in the stores.
Replenishment	Displays the reorder threshold. This is a total of the maximum reorder threshold levels in the different storage locations. You can modify this in the stores.
Customer orders	Displays the amounts reserved for customer orders (Sales Option)
Filters	Let's you choose other names for an article, which can be used as filter criteria to perform searches for it.

Fields displayed only under certain conditions:

Management	Appears next to the “Inventory management” checkbox if this is checked and only during the creation of a new article. Let’s the user configure the storage location that will be attached to the record. See “Storage Locations” in the menu features below.
Standard price (consumed)	Appears during creation and kept only if the article is out of stock. Let’s the user set the default withdrawal price for out of stock articles that will be included in an intervention report. If the article is in stock, the price will be transferred to the standard stock price of the article as set when the record was input.
Consumption unit	Appears during creation and kept only if the article is out of stock. Let’s the user set the consumption unit for out of stock articles that will be included in an intervention report. If the article is in stock, the unit will be used to create the storage location attached to the record.

Safety tab

This tab lets the user define safety instructions. There is a field to list the risks, a field for listing the precautions for use and a field for complement. For each field, you can input standard text by clicking on the “Open” button. To edit standard texts, you have to go to Table Menu -> “Work” Column -> “Motive for Work” Button -> “Standard Descriptions”.

The bottom field in the tab allows pictograms to be inserted for each article.

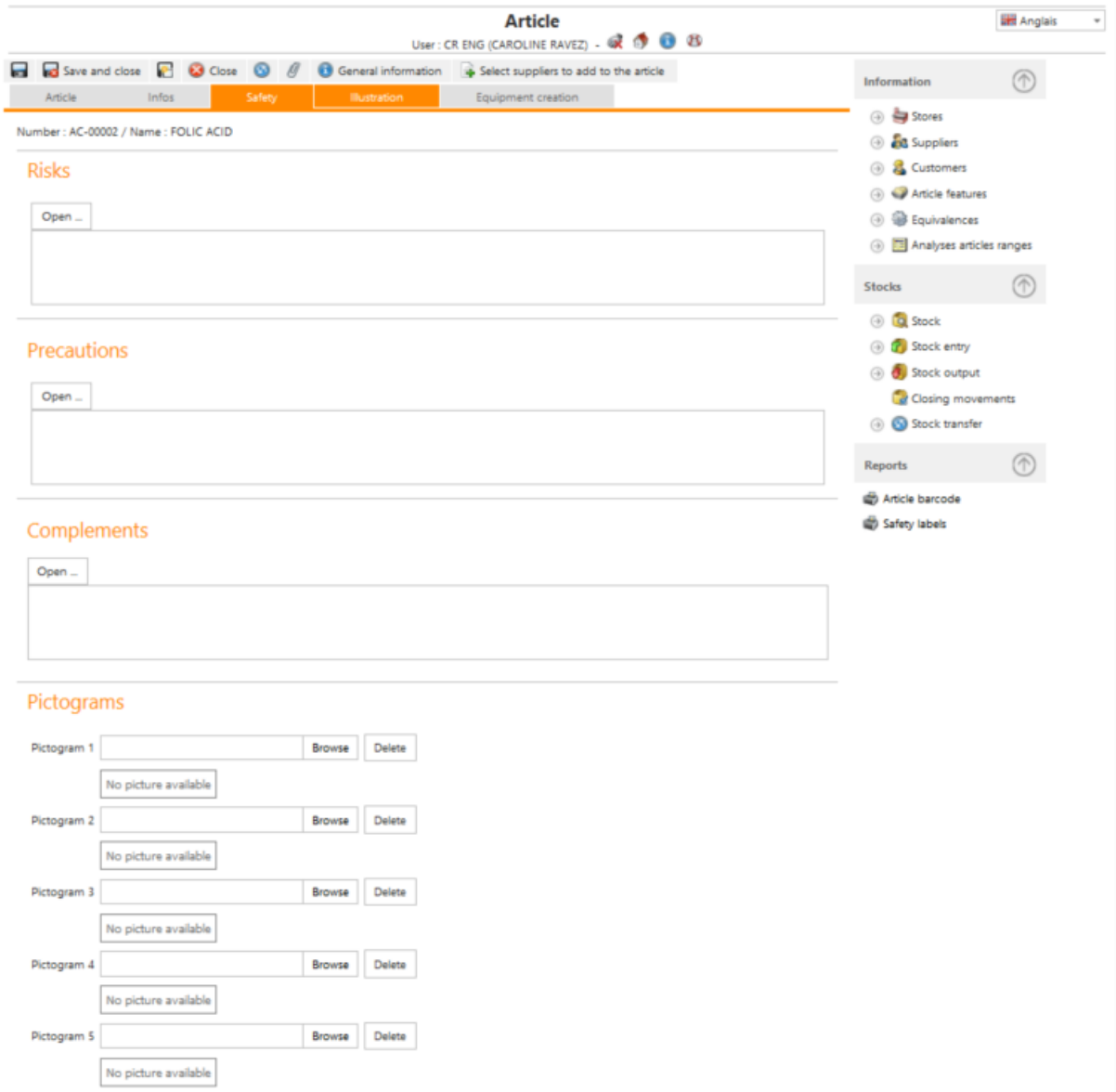


Illustration tab

This tab lets the user display an attached document (paperclip icon in the toolbar), such as a picture, photo or plan of an article.

Create equipment tab

This tab allows you to configure automatic creation of equipment during article putaway. You can set the parameters that will be used to create equipment. See *CHAPTER 2 / Equipment screen.*

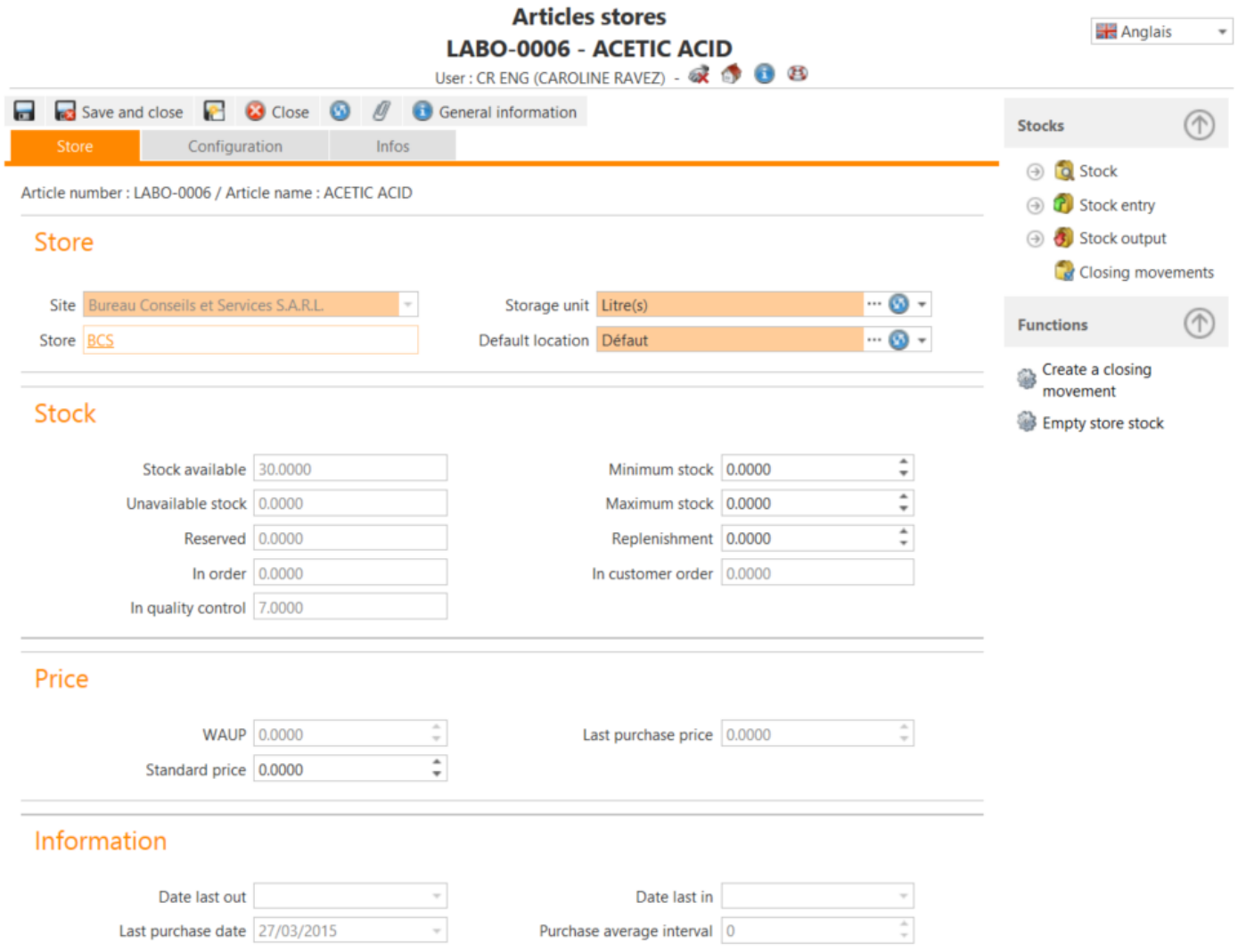
Info tab

This tab includes the list of configurable fields that allow for the input of any other information. These fields are displayed in the search screen.

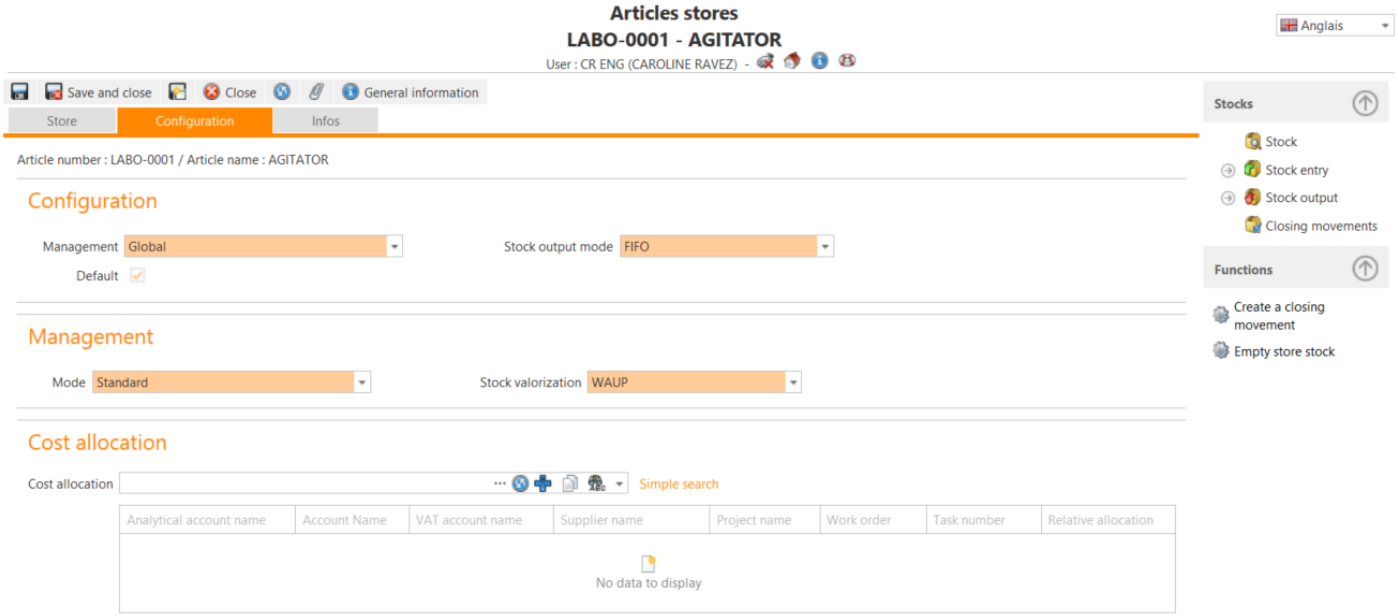
Menu features

Stores

This screen lets you consult the article storage locations. Here you can also associate articles and storage locations. This association is the base for all inventory management. The articles for which the “inventory management” checkbox is unchecked will not have any storage location attributed to them and the “stores” link will not appear in the menu. It is in this stores menu that you manage all aspects relative to storage (unit, location) as well as the reorder levels for each store.



It is also in this screen, in the settings tab, that you will configure the default inventory management modes and imputations.



The available STOCK management modes are:

Global: The articles are pooled no matter what their origins. You only have to input quantities and stock movements.

Lot: Articles are identified by a lot number, which depends in general on their origin (supplier, production order number…). When inputting stock movements, you have to specify the lot number as well as the quantity moved.

Expiration: This is the same principle as lot management, but when inputting stock you have to define the expiration date for the article. An alert can be set up to identify articles that are reaching the end of their shelf life.

Series: Articles are identified individually, with each article having its own serial number. The stock movements are only carried out for one unit and for each operation you have to specify the serial number for the article.

Stock withdrawal modes are used in the Customer and LIMS options to automatically suggest articles on the delivery voucher or when reserving articles for test requests. The various modes are:

FIFO (first in first out): the first article entered is the first article withdrawn.

LIFO (last in first out): the last article entered is the first article withdrawn.

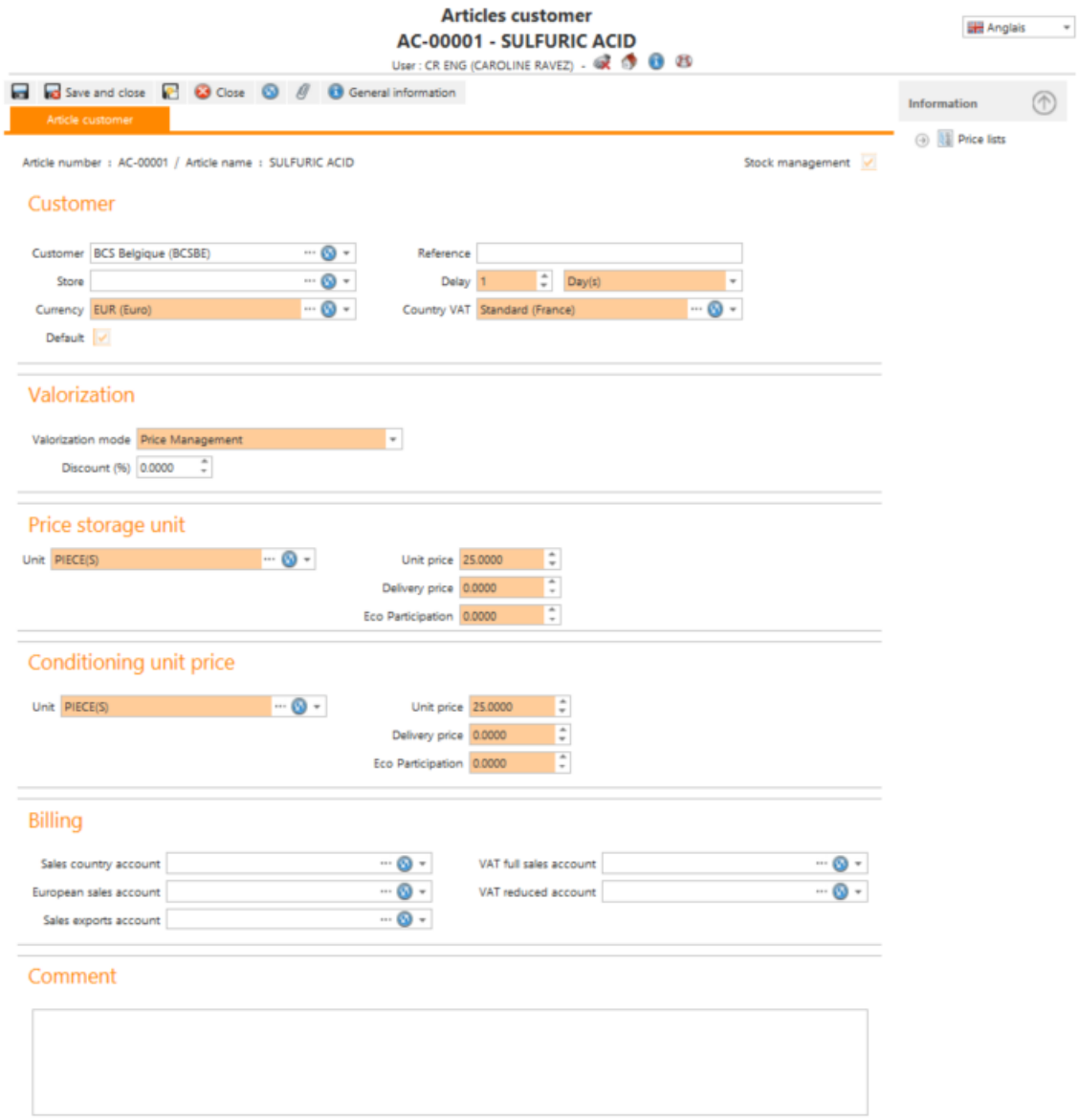
FEFO (first expired first out): articles with an approaching expiration date are the first to be withdrawn (possible only in the "Expiration" inventory mode).

Suppliers

This displays the list of suppliers that provide the article in question. From this screen you can also create new article-supplier associations and configure purchasing conditions. For more details, see *CHAPTER 5 / managing your purchases.*

Customers

This displays the list of customers for the article in question. From this screen you can also create new article-customer associations and configure sales conditions. For more details, see *CHAPTER 6 / managing your sales.*



Features

This tab lets you input the technical specifications for each article.

Below is a summary of each of the main fields in the tab.

Order	The order in which the specifications appear.
Specification	The type of the specification (e.g. pressure, amperage, maximum capacity, maximum load…).
Value	The value of the specification.
Unit	The unit of measurement for each specification (e.g. m³/H, Bar, Liter,...).

Equivalencies

Let's you manage the article equivalencies. In this way you can easily find the list of articles that are equivalent to the selected article, in a single click.

Equipment

This screen lets you see and set the article-equipment associations that allow you to display the BOM articles for an element of equipment. This is the mirror of the article screen that you can open from the equipment screen.

Stock

Displays the stock level for the article, per store.

Input

Opens the history for stock putaway movements for the article displayed.

You can also input a new putaway operation from the putaway screen. To do this, simply click on 

. The list of articles to pur away will then be limited to the storage locations defined for the article displayed.

Putaway is discussed in *CHAPTER 4 / Stock movements.*

Ouput

Opens the history for stock withdrawal movements for the article displayed.

You can also input a new withdrawal operation from the withdrawal screen. To do this, simply click on 

. The list of articles to be withdrawn will then be limited to the stock available for the article displayed.

Withdrawals are discussed in *CHAPTER 4 / Stock movements.*

Closing movements

This allows you to display the list of stock closing movements for the article in question. Closings can be made from the article store search screen or the edition screen for an article store.

Stock transfer

Displays the list of stock transfers carried out for an article. By clicking on 

, you can input a new transfer operation. An article transfer lets you move a given amount of the article from one storage location to another; You can also use this function to move stock beteen in-stock to out-of-stock statuses. Transfers create putaway and withdrawal movements that will appear in the corresponding histories.

CHAPTER 4 / Stock movements

In addition to the putaway operations that take place in the orders screen and the withdrawal movements done in the Work Order screen, AQ Manager Full Web lets you carry out other stock movements.

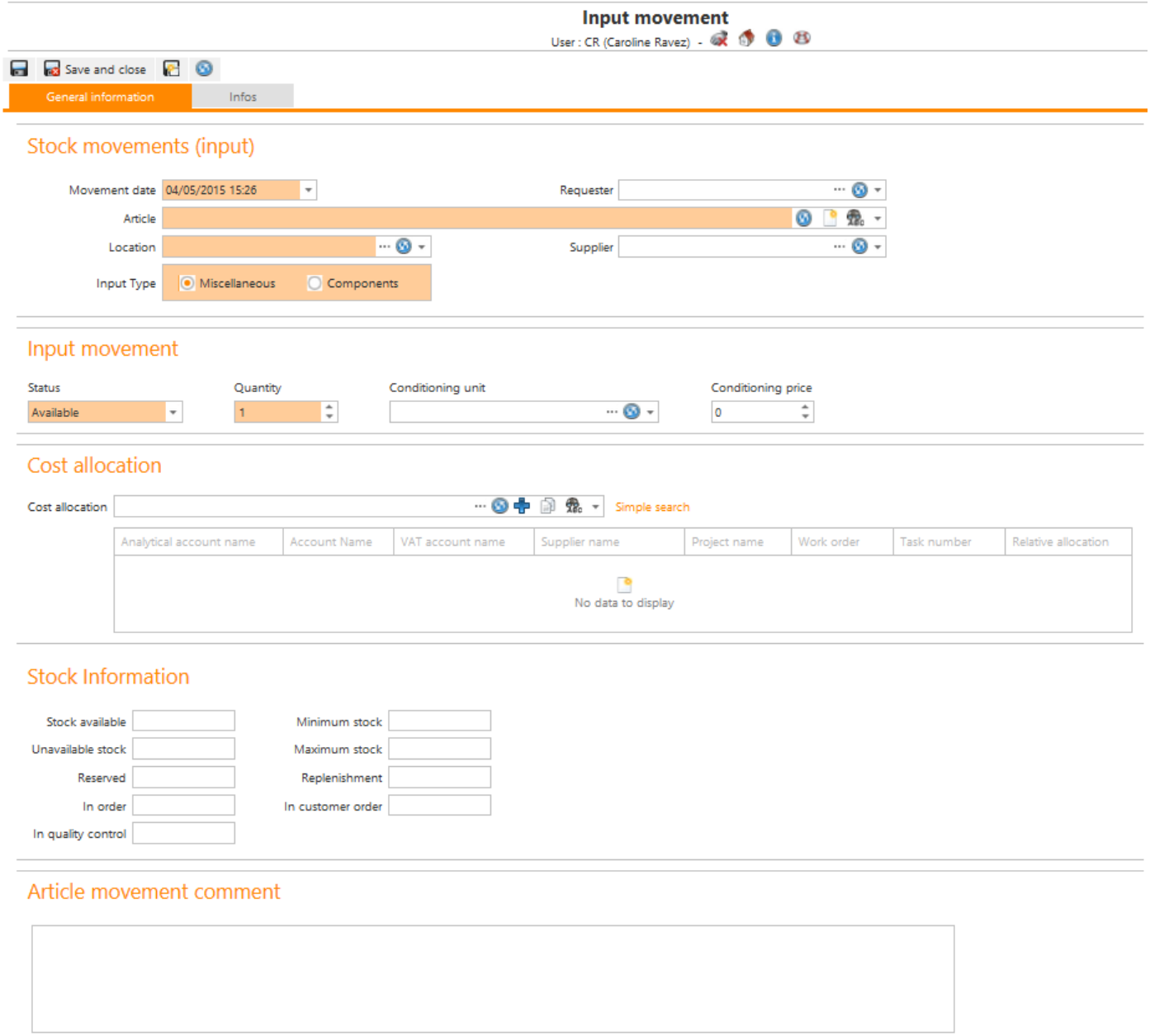
To access the stock movements screen, you have several options:

We have seen some of them as we explored the menus for the article search screen and the article screen. You can also access putaway and withdrawals from the order Workflow by clicking on the “article” icon.

However you choose to access it, a search screen for putaway and withdrawals opens first. Then the history for the stock movement opens. You can configure filters. To input a new movement in the screen, click on New.

Input

The first tab displays the main information about the stock movement. Let’s have a look.

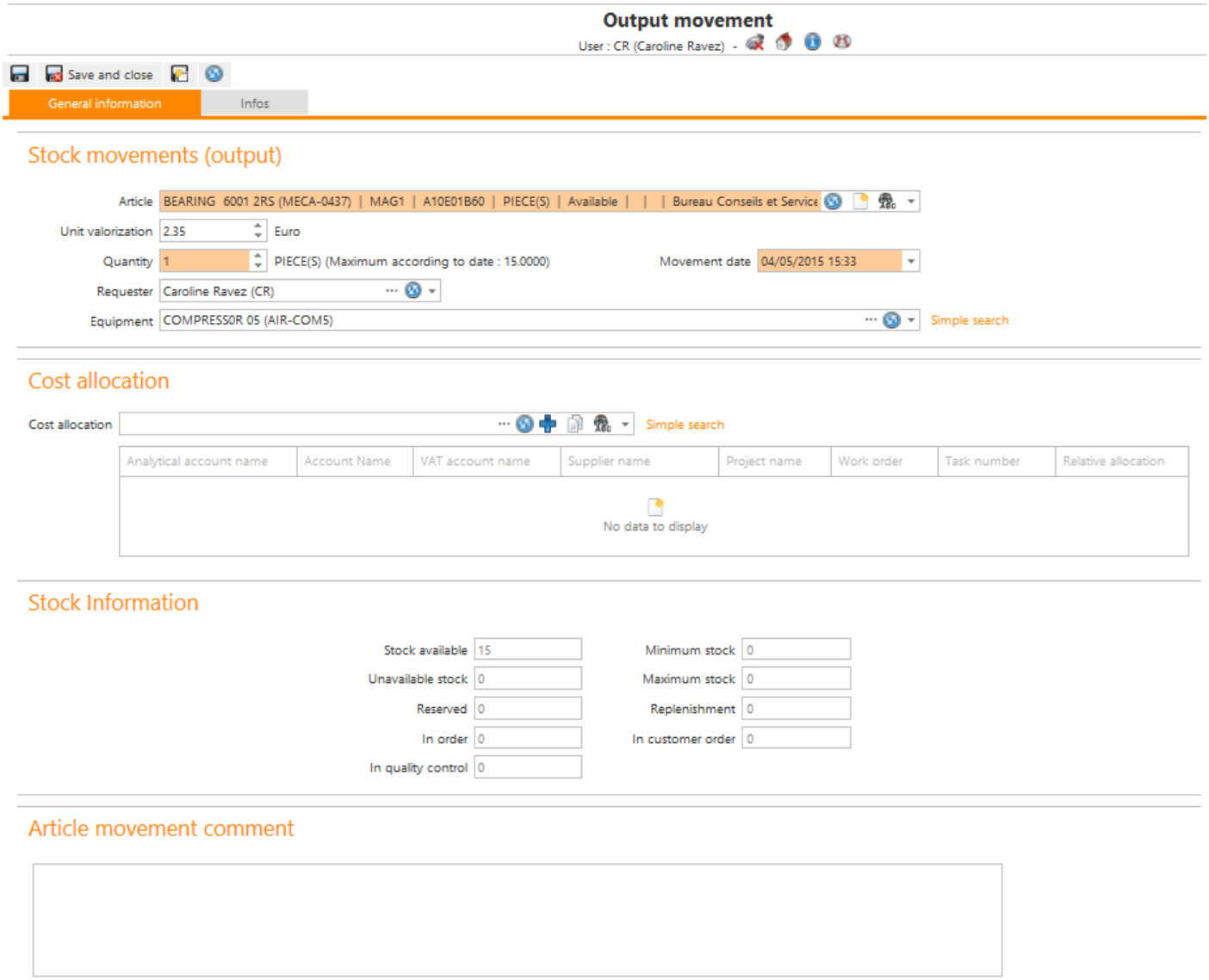


Movement date	This is automatically filled in by default with the current date. You can modify it, but you cannot choose a date prior to the last closing date.
Article	Choose the article in the dropdown list. Actually, this list shows the storage locations and not the articles. If an article has been attributed to two stores, it will therefore appear twice in this list. Selecting any of the lines configures the movement destination and the storage unit.
Location	This is automatically filled in with the default storage location for the article. You can modify it to generate a movement to another destination.
Supplier	Allows you to choose the supplier who delivered the article. This is a simplified way of inputting delivery outside the order flow. If an article to be entered has been ordered, you need to take delivery of it in the Delivery screen. See *CHAPTER 5 / Managing your purchases*
Input type	Choose between Miscellaneous or Components: Miscellaneous for direct putaways. Components to input the parts of an article and generate their traceability.
Status	Available, Unavailable or Quality Control.
Quantity	The quantity put away.
Conditioning unit	Let's you enter a box of 10 articles, for example, which would generate a 10-unit putaway. For more about packaging units, see *CHAPTER 5 / Managing your purchases.*
Conditioning price	Let's you define the price of putaway articles. This is either filled in by default with the WAUP or the supplier's price if you choose a supplier in the list described above.
Cost allocation	Account in which this movement is imputed. This can be inherited from the storage location for which the imputation has been defined.
Stock information	Displays the current stock data.
Article movement comment	Open text field allowing the user to input comments about the putaway.

A second tab designated as "info" includes a list of configurable fields that allow you to input complementary information. These fields are found in the search screen.

Output

The first tab shows the main information for a withdrawal. Let's have a look.



Article	Choose from the dropdown list. This list does not show all the articles, only the stock available. There are as many lines as there are storage locations. Choosing an element in this list therefore sets the article, the store and the location affected by the movement, but also the lot, the serial number or the expiration date if applicable.
Movement date	This is automatically filled in by default with the current date. You can modify it, but you cannot choose a date prior to the last closing date.
Cost allocation	Account in which this movement is imputed. This can be inherited from the storage location for which the imputation has been defined.
Equipment	Equipment for which the article has been withdrawn from the stock.
Stock information	Displays the current stock data.
Article movement comment	Open text field allowing the user to input comments about the withdrawal.

CHAPTER 5 / Managing your purchases

Purchase management can be accessed in the Order Menu. This menu lets you display all the screens that allow you to manage your purchases.

This menu takes you to the following screens:

Articles	Articles Stock input *(CHAPTER 4 / Stock movements)* Stock output *(CHAPTER 4 / Stock movements)* Inventories *(CHAPTER 7 / Inventory management)*
Alarms	Purchase orders alarm Alarm on replenishment stock Alarm on minimum stock Alarm for articles nearing expiration date
Order proposals	Purchase requests proposal
Purchase requests	Purchase request and archived purchase requests
Price requests	Price request and archived price requests
Purchase orders	Purchase orders and archived purchase orders Purchase contracts Purchase workflow
Suppliers	Suppliers screen
Progress	Purchasing summary screen
Receiving	Receiving slips screen
Invoices/Credit notes	Supplier invoice screen
Statistics	Miscellaneous purchasing statistics

Articles screen

Aside from the elements defining the articles that were discussed in Chapter 3, there is a certain amount of data required for optimal purchasing management. Below you will find the values and configurations that are to be set from the article screen.

Store locations

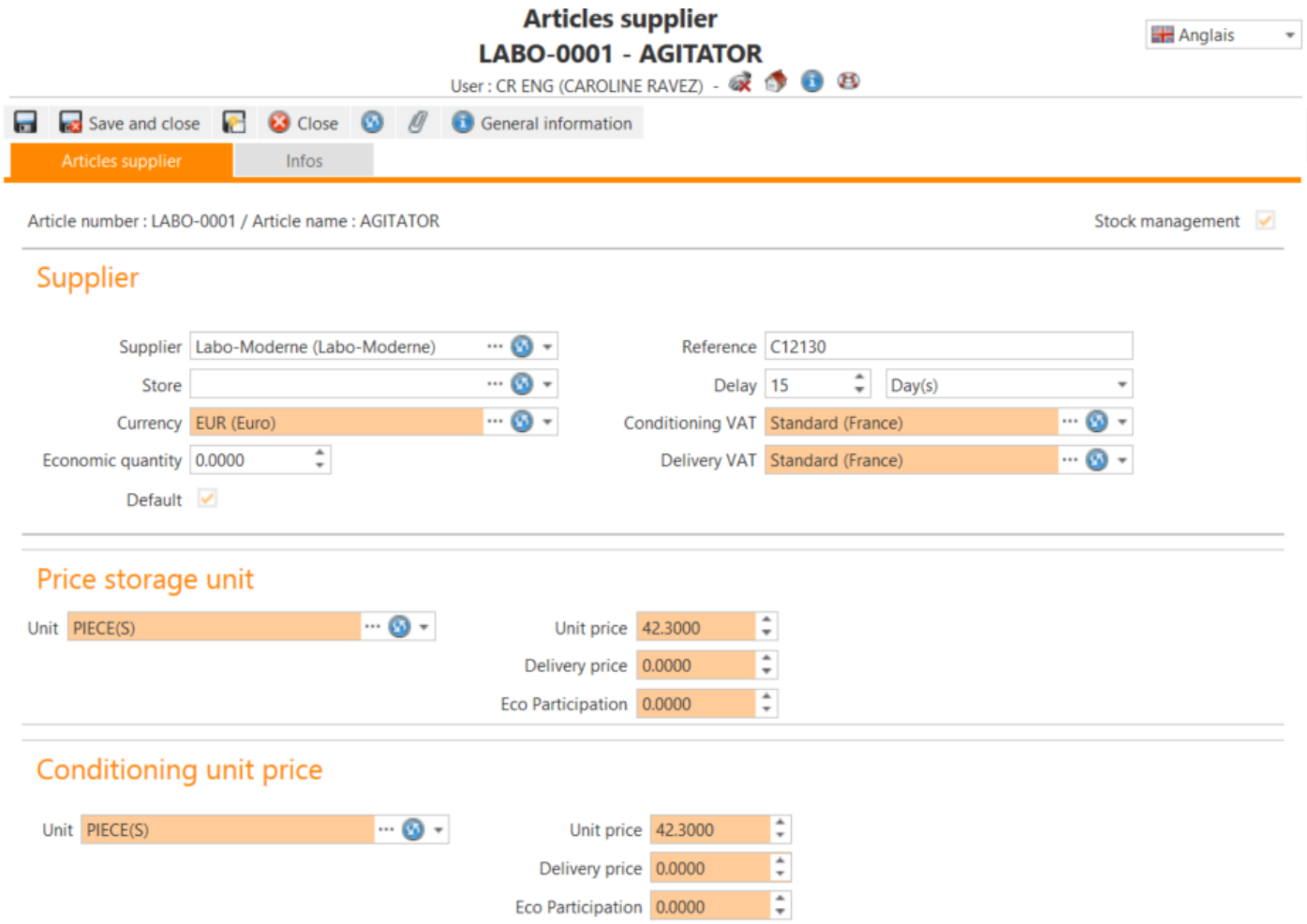
In order to set up automatic reorder, it is essential to define certain values. The minimum stock, maximum stock and reorder levels are among these. These settings are managed for each article and for each store. Thus, a single article can have different settings in each of the stores in which it is kept. Therefore, these settings are configured at the level of the store location. To allow this, the “Inventory management” checkbox must be activated on the article sheet.

Minimum stock	Sets the minimum level of stock to maintain. Below this level, the article will be considered out-of-stock.
Replenishment	Sets the stock level from which the order proposals will be generated for the article.
Maximum stock	Defines the maximum level of stock, beyond which the stock will be considered in excess. This is also the level the application will try to obtain in the order proposals if the stock falls below the reorder threshold.

Article supplier

In order to automatically generate order proposals, one or more suppliers must be associated to each of the articles. This association lets you define the purchasing conditions with respect to the supplier, with respect to price, conditioning and delivery deadlines. Without these, the application would not be able to suggest available suppliers for out-of-stock articles.

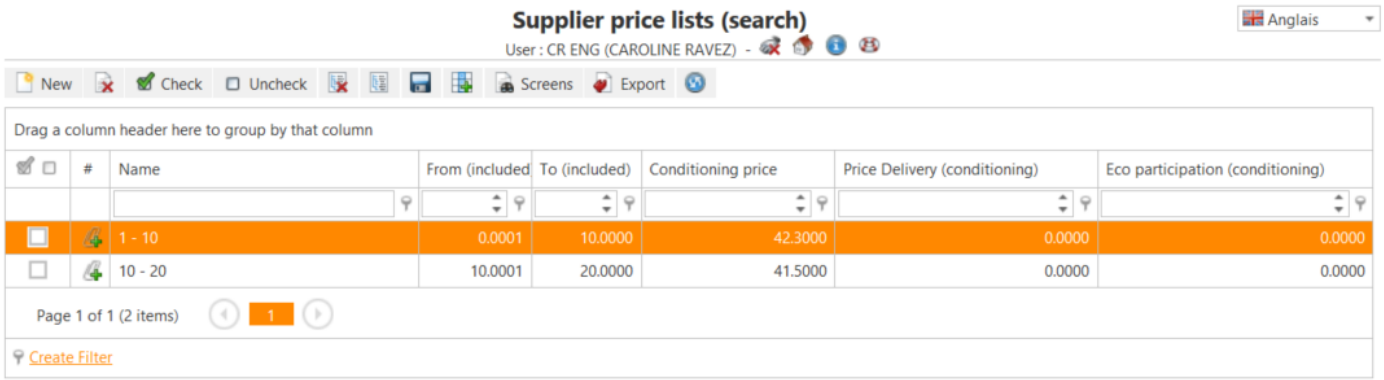
Aside from allowing the management of order proposals, being able to manage the suppliers of your articles lets you generate orders. Indeed, it is not possible to order an article if it has not been defined as available from the supplier who will fill the order. Though there are shortcuts in the orders screen to create this association between the article and the supplier, it still must be configured.



Supplier	Name of the supplier associated with the article. Saving this screen without inputting any supplier will indicate that the article is available for all suppliers. This is what is referred to as a “generic” supplier. However, this method of management must remain the exception because it generates records exponentially and could slow down your application in the screens that call up the article supplier lists.
Reference	Supplier’s reference for the article
Currency	Supplier currency
Delay	Supplier delivery deadline
Default	Default supplier for this article? yes/ no.
Economic quantity	Amount at which the supplier grants a discount on the purchase of the article.

VAT rate	Supplier VAT rate
Store	Store associated with the supplier. Allows the user to input different settings for each store. If left empty, the settings will be applied to all stores.
Storage unit price	Displays the price in the storage unit (automatically calculated by conversion of the Price per conditioning unit defined in the next frame).
Conditioning unit price	Price set by the supplier in the defined conditioning. In the frame above, the price per storage unit is automatically updated.

In the sidebar menu, a link lets you define a price list per quantity ordered.

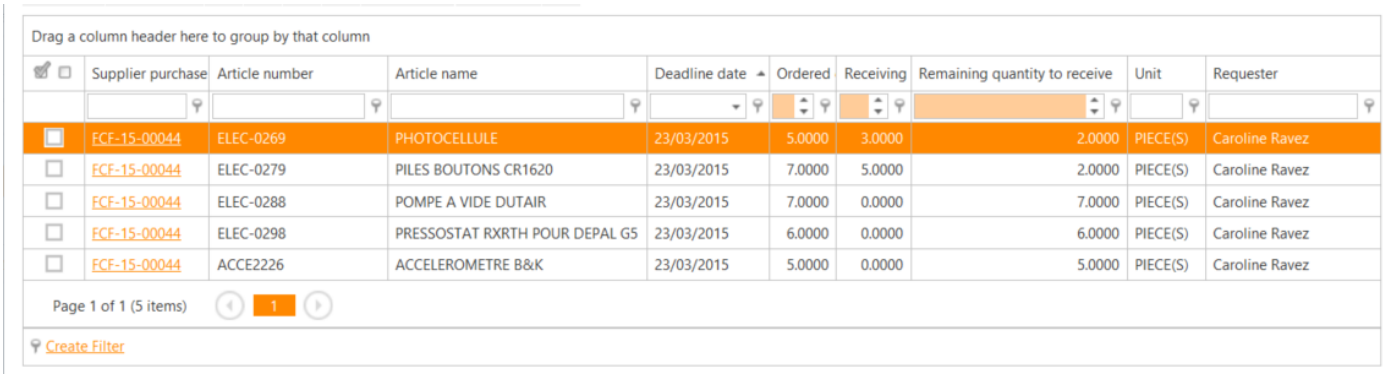


AQ Manager Full Web automatically applies these rates in the order proposals and purchase requests.

Alerts screen

Purchase order alarm

This screen displays the list of undelivered orders that have exceeded the delivery date. You can open the order in question by clicking on the order number in the Purchase order column.



Drag a column header here to group by that column

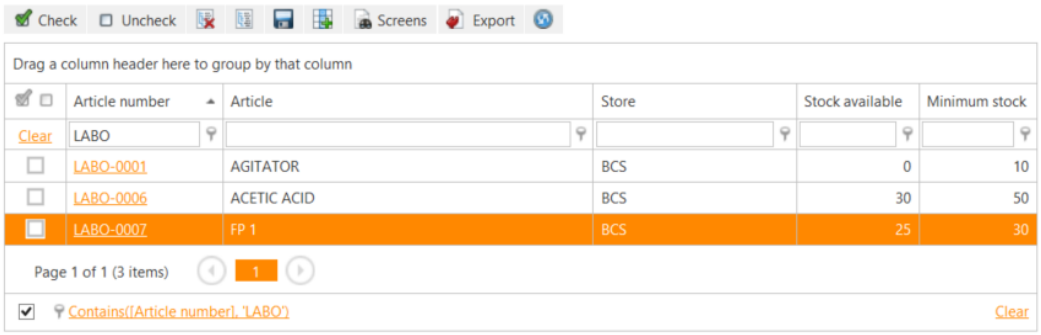
Supplier purchase	Article number	Article name	Deadline date	Ordered	Receiving	Remaining quantity to receive	Unit	Requester
FCF-15-00044	ELEC-0269	PHOTOCELLULE	23/03/2015	5.0000	3.0000	2.0000	PIECE(S)	Caroline Ravez
FCF-15-00044	ELEC-0279	PILES BOUTONS CR1620	23/03/2015	7.0000	5.0000	2.0000	PIECE(S)	Caroline Ravez
FCF-15-00044	ELEC-0288	POMPE A VIDE DUTAIR	23/03/2015	7.0000	0.0000	7.0000	PIECE(S)	Caroline Ravez
FCF-15-00044	ELEC-0298	PRESSOSTAT RXRTH POUR DEPAL G5	23/03/2015	6.0000	0.0000	6.0000	PIECE(S)	Caroline Ravez
FCF-15-00044	ACCE2226	ACCELEROMETRE B&K	23/03/2015	5.0000	0.0000	5.0000	PIECE(S)	Caroline Ravez

Page 1 of 1 (5 items) 1

Create Filter

Alarm on minimum stock

Displays the list of articles that are out of stock in the different storage locations, based on the set minimum stock level.



Check Uncheck Screens Export

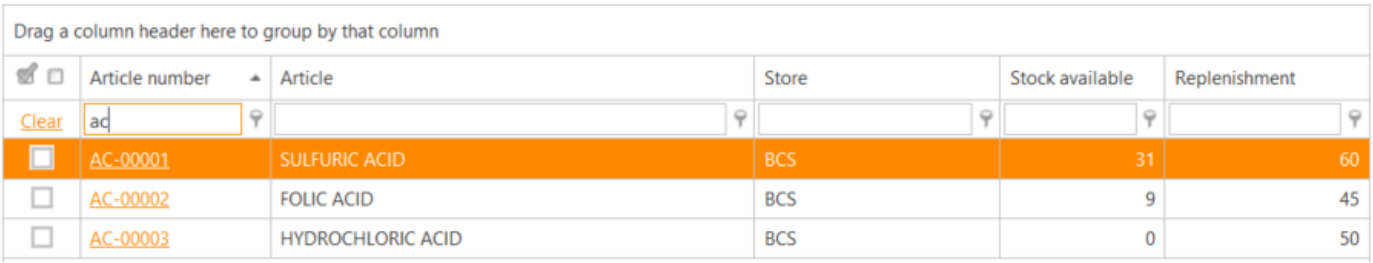
Drag a column header here to group by that column

Article number	Article	Store	Stock available	Minimum stock
Clear LABO				
LABO-0001	AGITATOR	BCS	0	10
LABO-0006	ACETIC ACID	BCS	30	50
LABO-0007	FP 1	BCS	25	30

Page 1 of 1 (3 items) 1

Contains([Article number], 'LABO') Clear

Alarm on replenishment stock



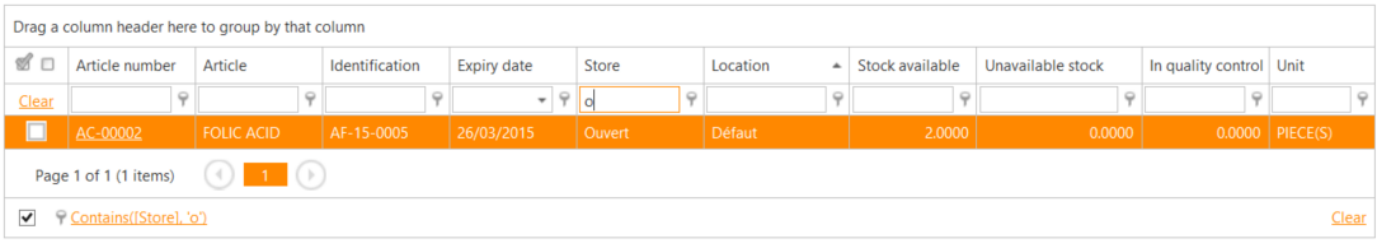
Drag a column header here to group by that column

Article number	Article	Store	Stock available	Replenishment
Clear ac				
AC-00001	SULFURIC ACID	BCS	31	60
AC-00002	FOLIC ACID	BCS	9	45
AC-00003	HYDROCHLORIC ACID	BCS	0	50

Displays the list of articles that are out of stock in the different storage locations, based on the reorder levels.

Alarm for articles nearing expiration date

Displays the list of articles that have exceeded their expiration date.



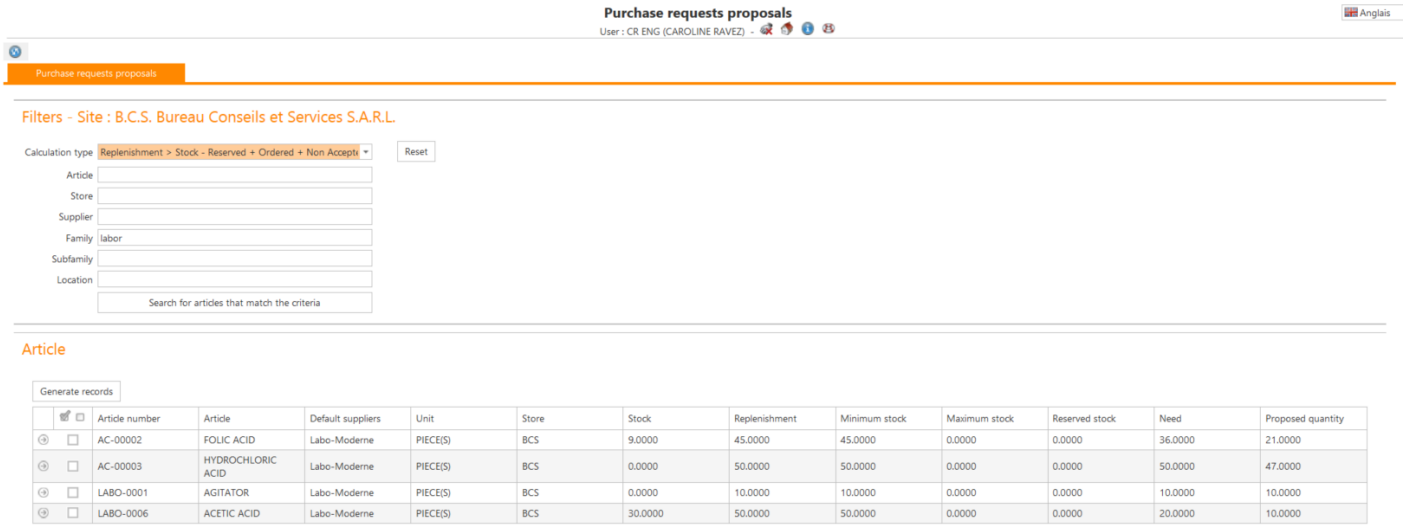
Order proposals screen

When you open the order proposals screen, two filter windows open.

The first asks you to select the site for which you want to handle the proposals (requires the multi-license option).

The second lets you filter the list of proposals according to various criteria. The only obligatory criterion is the first one. This one allows you to define the calculation method used to generate order proposals.

To visualize the articles to order, click on the “Search articles that meet the criteria”.



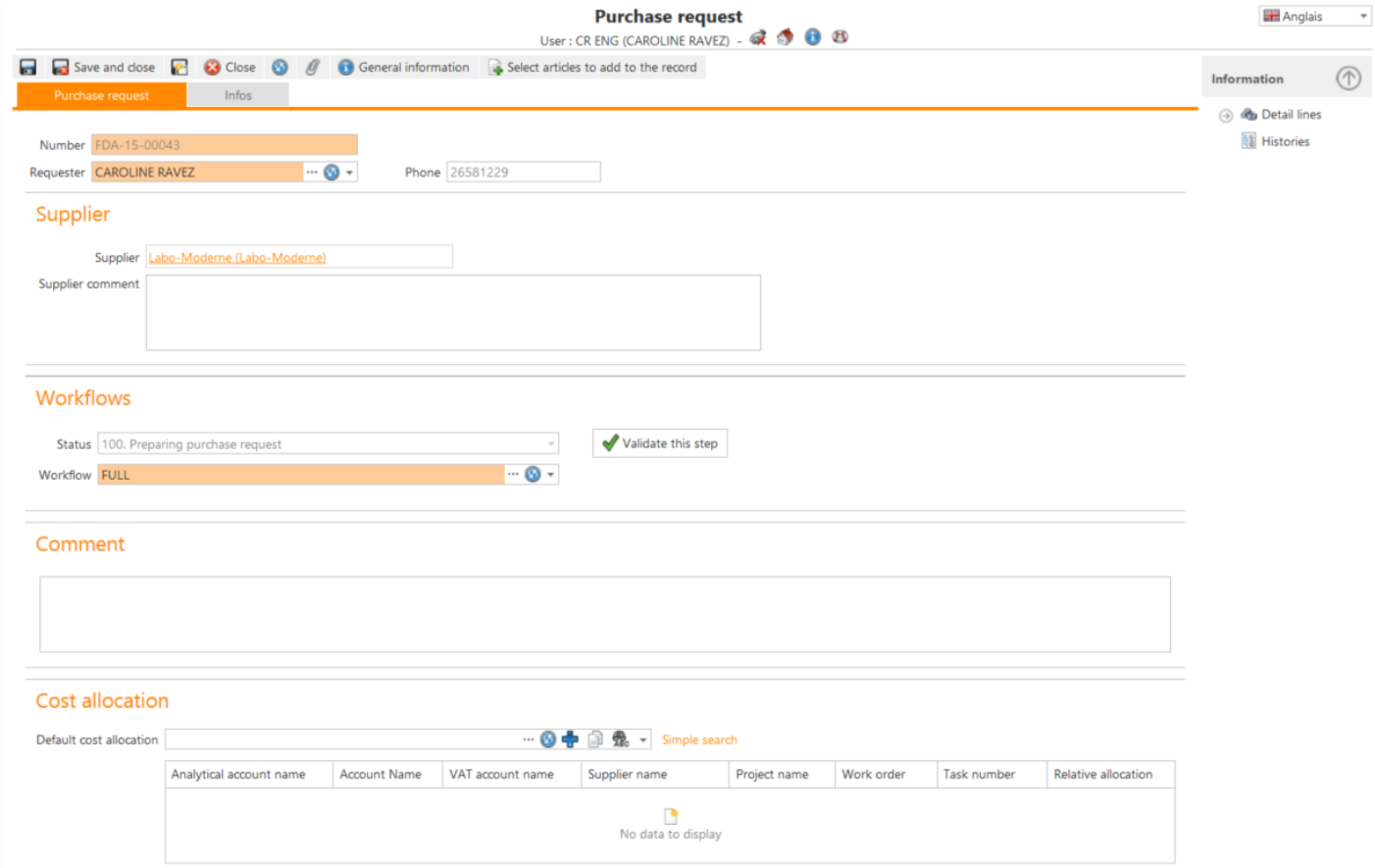
A list of articles appears in the lower part of the screen. To transform these proposals into orders, select the articles to order using the checkboxes. When you have expanded each line the available suppliers are displayed. It is also possible to change the amount ordered.

To generate order proposals, click on “Generate records”. A window will open in which you can select the purchasing Workflow to use and the type of report to generate: purchase requests, price requests or purchase orders.

A record (purchase request, price request or purchase order) will then be generated for each supplier, pooling the different articles selected.

Purchase request screen

This screen allows the user to create and consult purchase requests. These can be issued from order proposals, generated by preventive maintenance, or manually created from this screen. To create a new purchase request, simply click on New.



The main screen shows all the header informations on the purchase request, i.e.the number, the name of the person making the request, and the supplier, as well as the imputation and a comment field.

This screen also has a field in which you can select the work flow for the purchase request, as well as its status within the work flow.

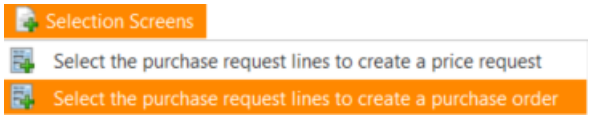
Any requistion can be edited at the “100. Preparing purchase request” stage (even those that are automatically generated from the order proposals.) It is then possiblie to add other articles to the purchase request, or to modify the quantities requested.

You can add articles to a purchase request in several ways:

- Either by developping the “details” line in the right sidebar of the screen and clicking on New.
- Or by clicking on Select articles to add to the record in the toolbar at the top of the screen. A window will open and allow you to select multiple boxes for the articles you want to add to the purchase request.
- Or by opening the screen for the details lines through the right sidebar. A screen will open and display the articles that are already included in the purchase request. The New and Select articles to add to the record can also be found in this screen.

To move the purchase request to the next step in the work flow, use the “Validate this step” button in the work flow zone. You can also do this from the search screen by selecting the purchase request then by using the “Sign the workflow” function in the left sidebar menu.

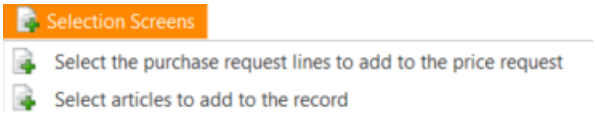
When you reach step “300. Purchase request pending purchase” of the Workflow you can select the articles to use to transform the step into a request for quotation or an order by clicking on “Selection screen” in the tool bar.



Price requests screen

To request pricing from the search screen, you only have to click on 

. When you have created your price request, you can add the articles. The “Selection screen” button in the tool bar lets you select the articles from the supplier or articles from pending purchase requests.



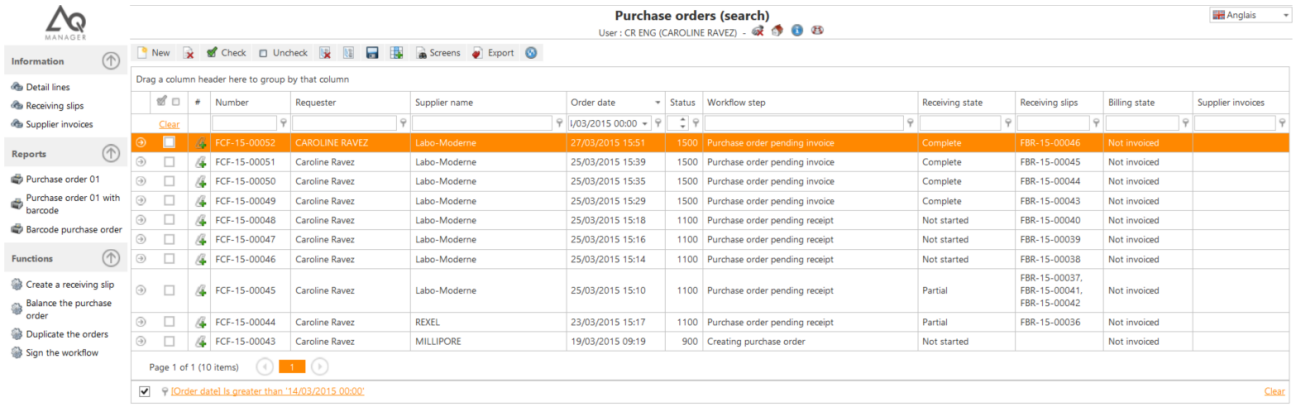
To be able to consult different suppliers, a price request can be copied by clicking on the “Duplicate the price request” link in the left sidebar of the search screen. However, if any articles have not been referenced for the new supplier, they will not be duplicated in the price request generated.

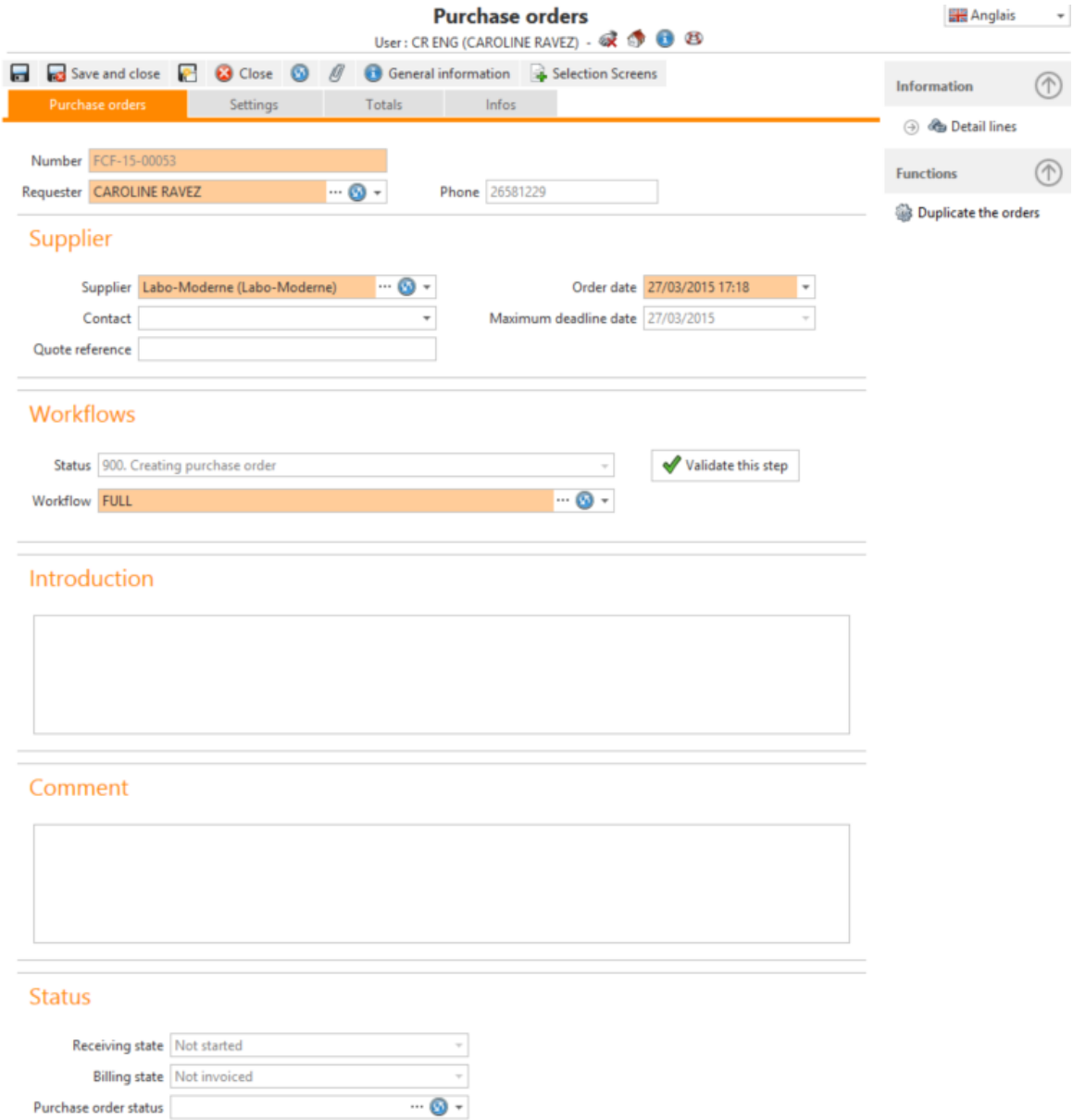
Price requests can be printed by clicking on the link “Price request 01” in the left sidebar menu of the search screen.

Note: Price requests are facultative. A purchase request can be transformed directly into a purchase order, without necessarily going through this step. This is related to the procedures configured in the purchase workflows.

Purchase Orders screen

This screen displays the list of pending orders. These can be generated from purchase requests, price requests, or order proposals. You can also generate orders directly in this screen by clicking on New.



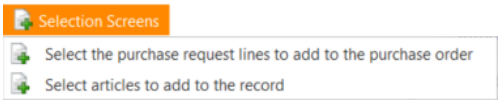


To edit an order, double-click on the corresponding line and the purchase order screen will open.

In it you will see four tabs. The first tab displays the header information for the order. The “Settings” tab shows the data relative to payment, transport and delivery. The “Totals” tab displays the provisional and actual totals, while the “Infos” tab contains a list of customizable fields.

Articles can be added to orders in several ways, by using the multiple selection screens or by editing the detailed articles.

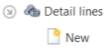
Multiple selection screens (in the tool bar):



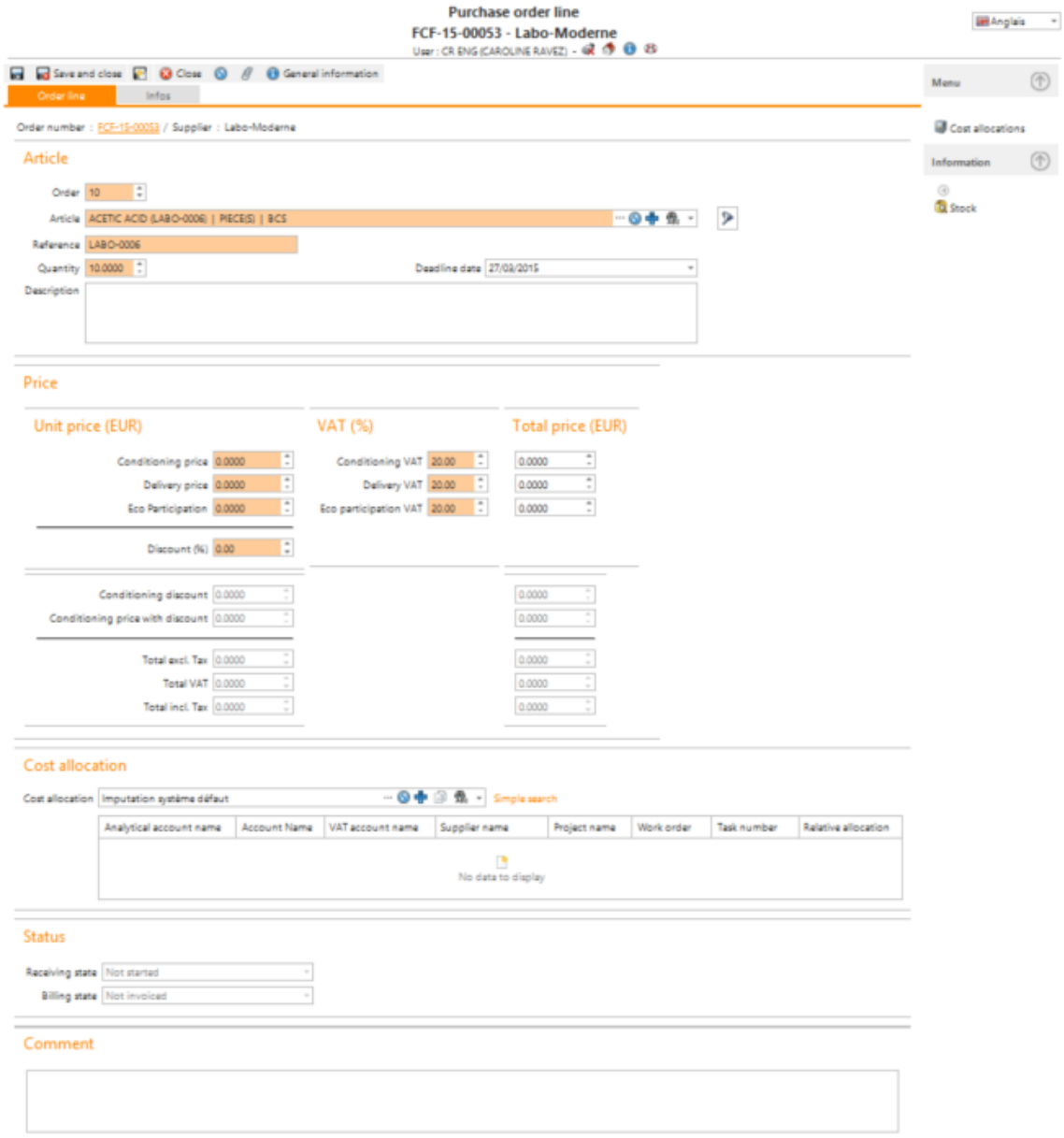
These allow the user to select the articles from the supplier or the articles listed in the purchase requests for this supplier.

To edit the details, use the New in the search screen or in the right sidebar menu of the screen.

The screen will open and allow you to edit the details of the order, line by line:



All you have to do is to select the article to be ordered in the “article” list. The reference and the price will be automatically filled in according to the existing supplier- article association. You can change the price or the reference in this screen, and AQ



Manager Full Web will offer to update the changes in the supplier-article association.

Progress screen

This screen shows a summary of the pending orders. It allows you to see all the orders according to their status and to access the details of each of them, in one click.

Deliveries screen

This screen lets you input the movements relative to delivery and putaway of orders. There are two methods of doing this:

- The first consists in creating from this screen a new delivery voucher associated with a supplier by clicking on New and selecting the articles for which delivery is pending for that supplier and which you want accept delivery of. To do this, click on “Multiple selection” in the tool bar.
- The second possibility is to create a delivery voucher from the orders screen. In this screen, click on the order to be approved and click on the function “Create delivery slip” in the sidebar menu.

In both cases, a delivery voucher will be generated and added to the list. It is always possible to add articles to the delivery list at this point. It is also possible to modify the quantities of and the prices of the articles.

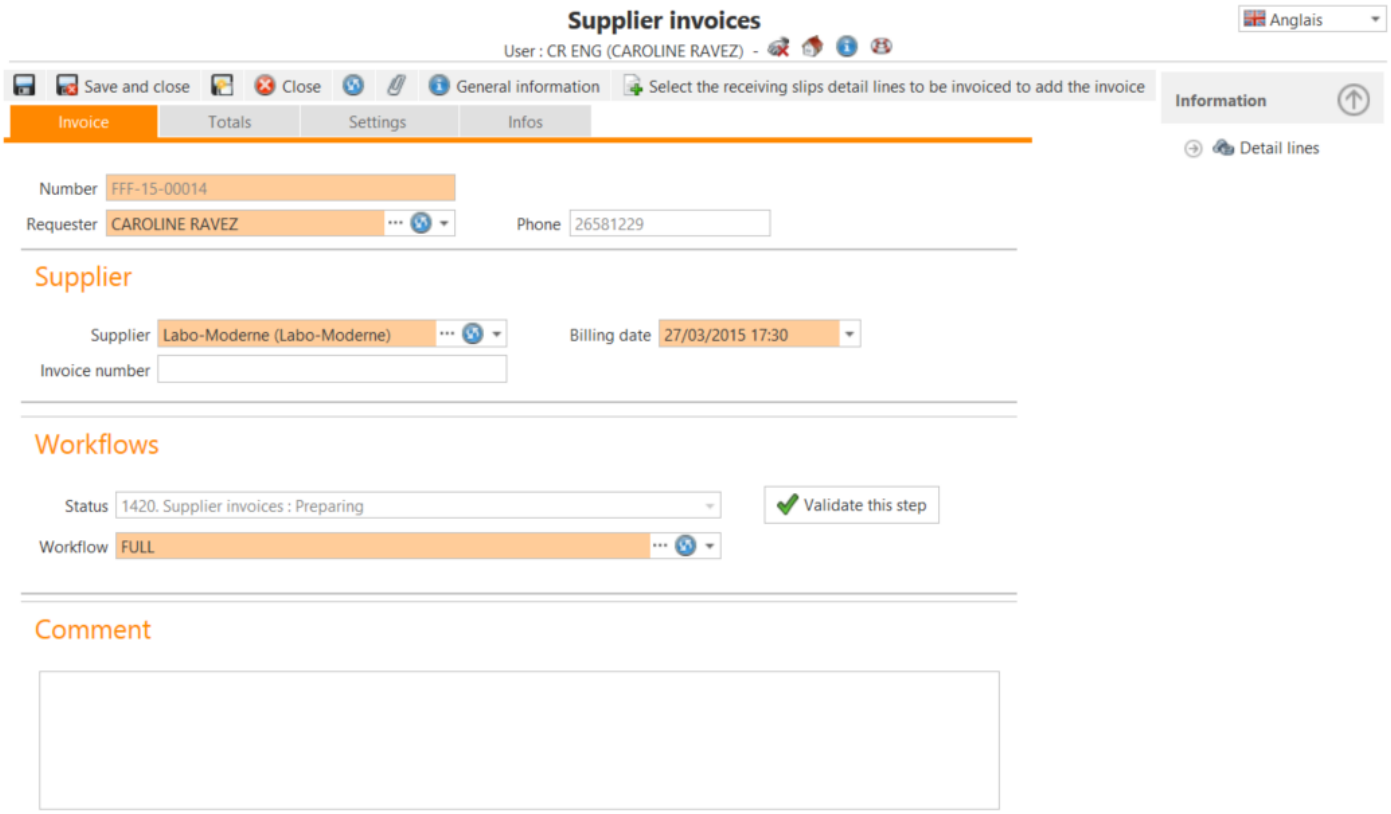
To close the delivery, click on “Validate this step” in the work flow.

Invoices/credit notes screen

This screen lets you input and consult the supplier invoices and credit notes.

To input an invoice or credit note, click on New .

To add deliveries to the invoice or credit note, click on “Multiple Selection” at the top of the screen. A screen will open allowing



you to select the delivery reports to associate to the supplier invoice or credit note.

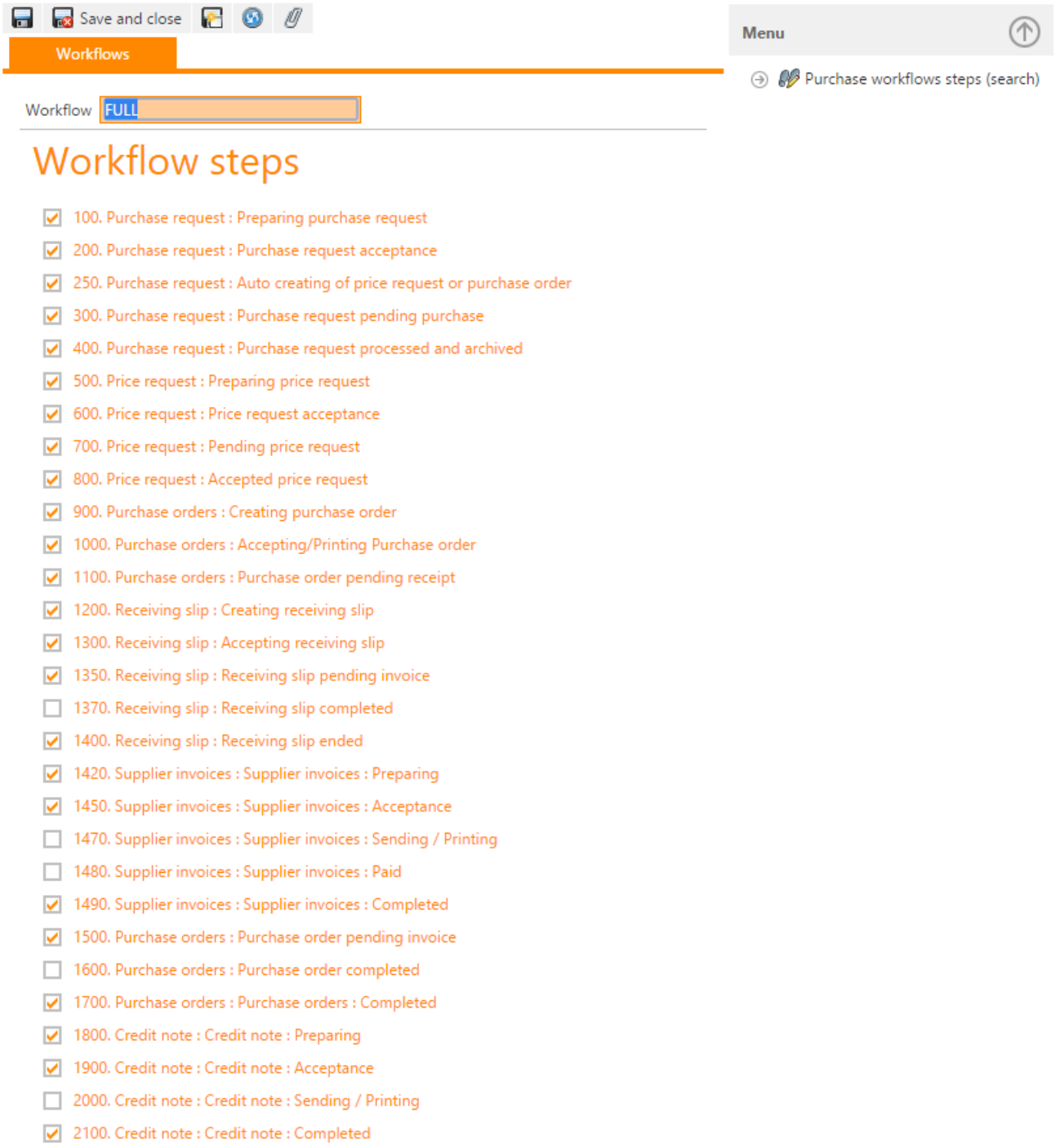
To validate the invoice or credit note, move to the next step in the workflow by clicking on “Validate this step”

Purchase Workflows

The different steps in purchasing management, which we have just discussed, are not all mandatory.

It is quite possible to skip some of the steps, to adapt to your own needs.

Purchase workflows allow the user to activate the useful steps in order to set up a fully customized validation process. For example it's possible to build a workflow in which the orders and deliveries are managed without needing to go through purchase request, price requests, or supplier invoices and credit notes.

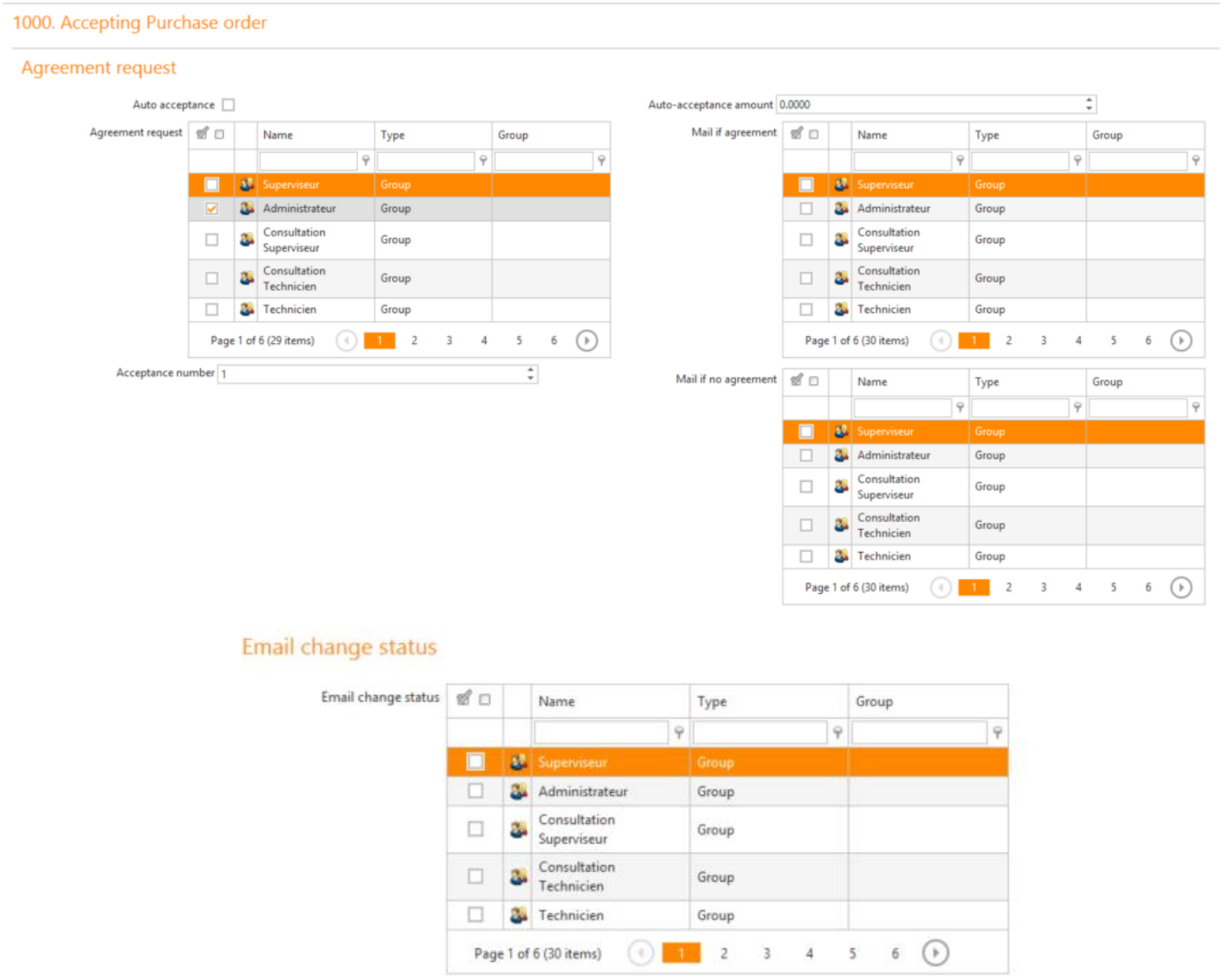


Moreover, it is also possible to create different purchase workflows, each with their own process.

This screen lets the user select the different stages of the workflow, by simply checking or unchecking the. On the other hand, some steps cannot be dissociated and will therefore be automatically checked when another step is selected.

For each step, you can define the related rights and actions. Thus, you can manage alerts by sending e-mails to some users or user profiles. It is also at this level that the rights to modify status are managed for each step.

Some steps become mandatory upon activation of others and can be automated. Thus, accepting purchase order is obligatory if orders have been activated. The “Auto-approve” checkbox lets you skip this automatic step. If the step is not automatic, you can manage the approval rights and e-mail alerts. It is also possible to manage the deadlines for assuming the work, delay alerts and rights to return to a previous step.



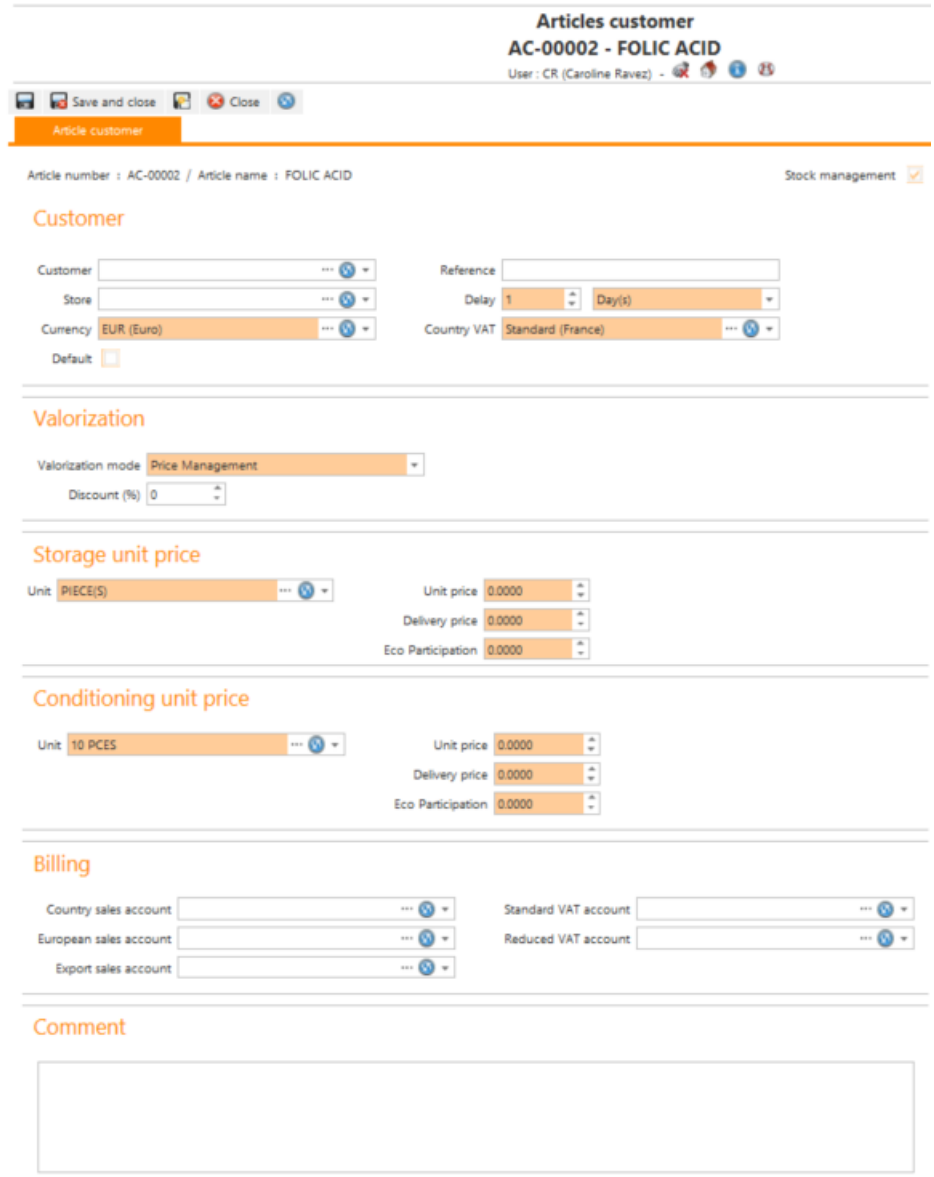
Systems users in the Workflow

In the Workflow system there are a certain number of users that can be associated with the different steps in validating the Workflow.

Maintenance manager (site)	Corresponds to the maintenance manager defined in the site screen. Access: Settings Menu -> Sites -> Maintenance manager
Maintenance technician (motive)	Corresponds to the technician defined in the motives for the work order. Access: Tables Menu -> Motive for work ->Maintenance Technician
Operations manager (Equipment)	Corresponds to the operations manager defined on the equipment sheet. Access: WO Menu -> Equipment -> Operations Manager.
Safety manager (Equipment)	Corresponds to the security manager defined on the equipment sheet. Access: WO Menu -> Equipment -> Safety Manager.
Team manager	Corresponds to the manager of the requester's team. Access: Tables Menu -> Staff-> Teams -> Leader.
Service manager	Corresponds to the person in charge of the department in which the requester works. Access: Tables Menu -> Staff -> Departments -> Head.
Creator	Corresponds to the user who created the record
Requester	Corresponds to the user who is the requester of the record. Access: Settings Menu -> Users.
Supplier / Customer Contact	Allows an e-mail to be sent to the supplier or customer contact person defined in the order.

This screen allows the customer pricing to be set for each article. It is only available when the Sales Option is activated.

Below is a summary of each of the main fields in this screen.



Customer	The name of the customer for whom this price is applied. If you leave this field empty, the tariff will then be applied to the generic customer (in other words, to all customers who are not associated with a particular price.)
Reference	The article reference number included in the quotation, the order, the delivery note and the customer invoice.
Store	You can have prices that vary according to the warehouse from which the goods are shipped. If this is the case, input the warehouse for which the price is applicable.
Delay	Input the deadline that appears on the quote and on the order confirmations.

Currency	You can have prices that vary in function of the currency in which the customers are invoiced. If so, input the pricing currency. The currency generally used by the site is suggested by default.
Country VAT	Input the standard VAT rate applicable for the article.

CHAPTER 7 / Inventory management

An inventory module is available in AQ Manager Full Web.

To access this, click on the article zone in the Orders menu. When you click on this menu, the inventory search screen is displayed. This is the list that recapitulates all the current or completed inventories.

To create a new one, click on 

.

The creation window will open and the available fields can be filled in, in particular the name of the inventory.

Numbering is automatic, as the structure for the numbering has been defined in the site settings.

Then choose the scope of the inventory by adding the details on each line.

To do so, use the following buttons:

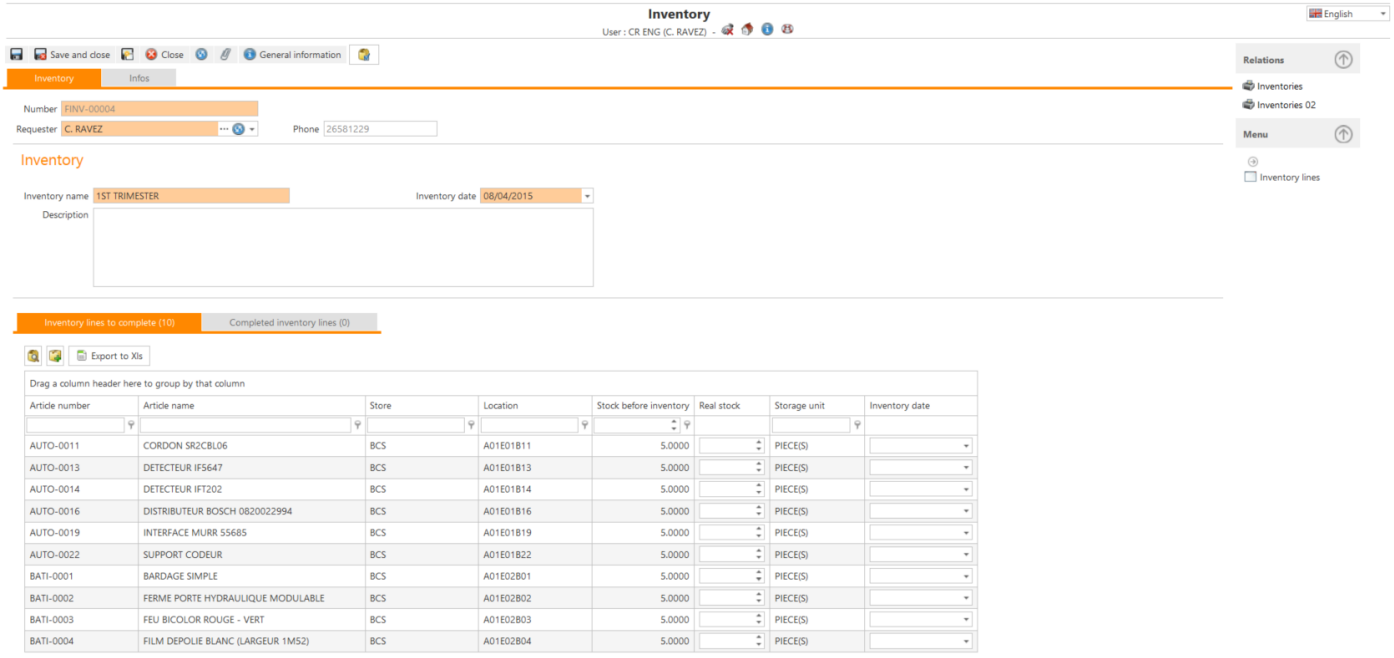
Select stock for inventory	This button opens the list of all the articles and all the locations that have already been affected by stock movements.
Select articles for inventory	This button opens the list of all the stock that has never been moved. This list is used more to initialize a stock.

After clicking on one of the above buttons, a list opens and then you check the lines to be inventoried. You can inventory everything (check all) or inventory part of the list by filtering the articles (by store, by location, by article number…)

Once all the articles have been checked, click on to add them to the inventory. It is then possible to export this list via MS Excel or to print out a list of articles to count in a store.

After the inventory has ended, input the amounts 

on the right of each line then save the inventory.



PART 4: WORK MANAGEMENT

CHAPTER 1 / Tasks and types

Tasks

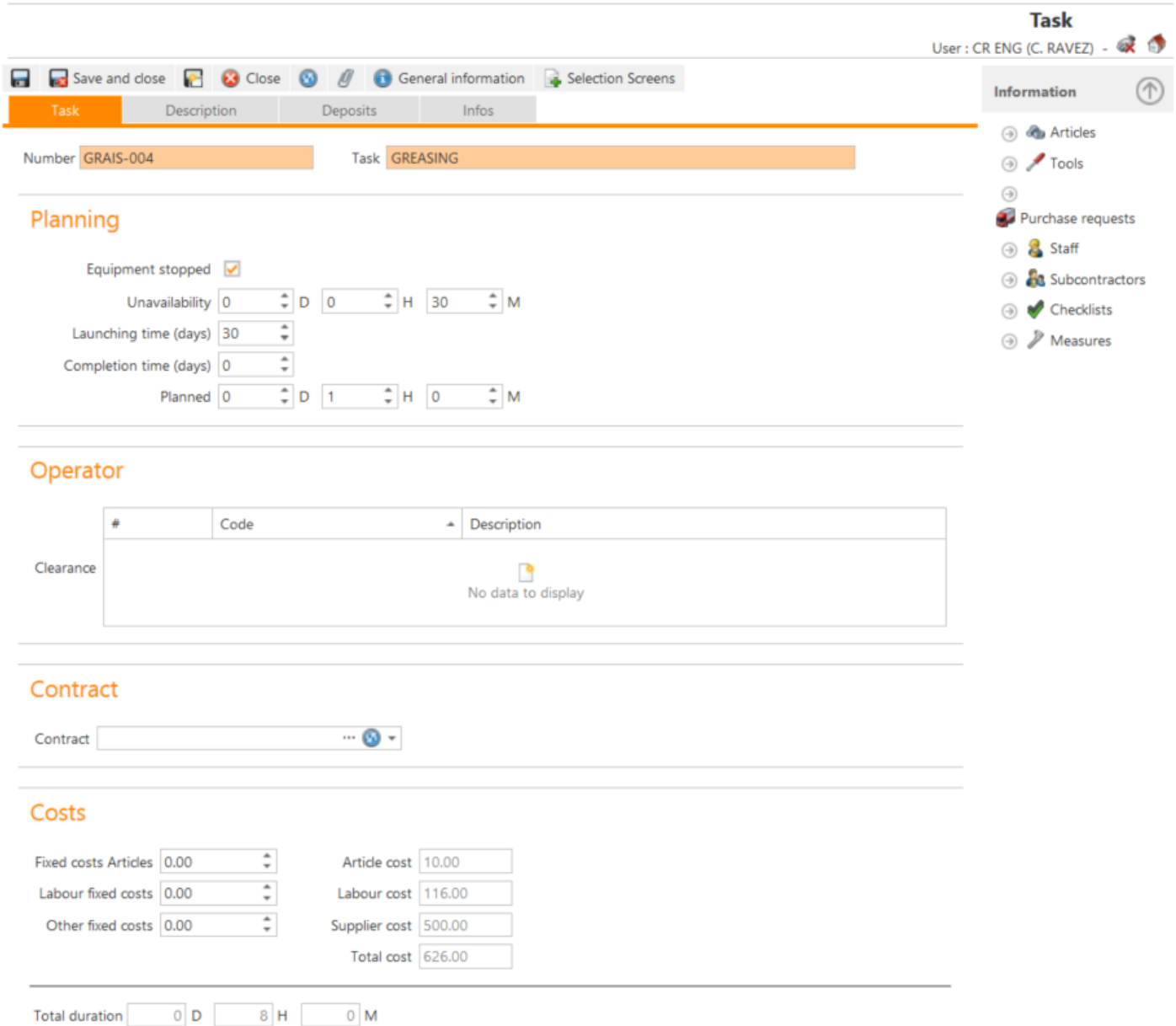
The tasks screen lets the user define the operational maintenance modes. These can include a checklist of operations to perform, safety instructions to respect, necessary articles, measurements to take…

To access a new task, click on the Tasks link in the Preventive maintenance zone in the Equipment menu

To create a new task, click on New in the tool bar.

The copy function, in the sidebar menu, lets the user quickly copy a task that may then be adapted.

Main screen



The Task screen is made up of four tabs : Tasks, Descriptions, Instructions and infos.

The first tab shows the main information about the task.

Planning	
Equipment stopped	Does the equipment have to be shut down to carry out the task?
Unavailibility	Defines the equipment downtime required to carry out the task.
Launching time	Defines the number of days advance needed to create the WO for the task.
Completion date	Defines the number of days required to carry out the task. Based on this, alerts can be calculated for approaching deadlines.
Planned	Defines the estimated time needed to carry out a task. After the deadline, the task will appear as being behind schedule.
Operator	
Clearance	Defines the clearance required of the personnel needed to perform the task.
Contract	
Contract	Inputs the link to the maintenance contract
Costs	
Fixed costs (Articles/ Work/ Other)	Establishes the fixed costs for a task.
Cost (Articles/ Work/ Supplier/ Total)	Displays the costs calculated in the task elements. See *Menu features*

The second tab, Descriptions, lets you write a text description of the task. This will be shown on the Work Order.

The third tab, Instructions, lets the user define safety instructions related to the task. This will be shown on the Work Order.

These two tabs can be filled in with standard texts that are saved in the application and available for other tasks. To do this, click on the “Open” button at the top of the description and instructions fields.

The fourth tab, Infos, has extra fields that can be customized.

Sidebar features

Articles

Here you can define the articles needed to carry out the task. These articles will then be set aside in the stock when the WO for the task is generated.

The user has two possibilities for adding articles:

- The “multiple selection” button in the toolbar at the top of the screen, to add several articles at the same time ;
- The New to add articles one by one.

Tools

This point allows you to list the tools needed to carry out the task. The tools are articles whose checkboxes have been ticked. As for all articles, tools can be reserved in the stock rooms, or be included in Putaways and withdrawals.

Purchase request

This point lets the user configure the purchasing orders that will be created when a WO is generated for the task. The supplier and the articles or services that are necessary can also be ordered.

Staff

Here the required resources are provided for (man-hours) in order to perform the task, as well as the technician(s) responsible for carrying it out, or even the required occupation.

Subcontractors

This allows one or more sub-contractors to be associated with the task. In the screen, the maintenance time must first be input and the sub-contractor(s) can be added.

Checklists

This point lets the user define the steps that make up a task. In the Work Order, this check-list will have checkboxes for marking the finished steps.

Measures

The user can define the measurements and parameters to take during maintenance tasks.

To create a measurement, it must be given a name, a unit of measurement and a result format (alphanumerical, numerical, date…

Limits can also be set (valid if alert if…).

For each limit, a Workflow can be associated. If the value measured exceeds the set limits, AQ Manager Full Web will automatically generate an alert or create a WO.

Ranges

Ranges allow different tasks to be combined. These ranges can be used in various screens in the AQ Manager Full Web application.

Ranges are not obligatory because tasks can be attached directly to the PM schedule, as well as to WO.

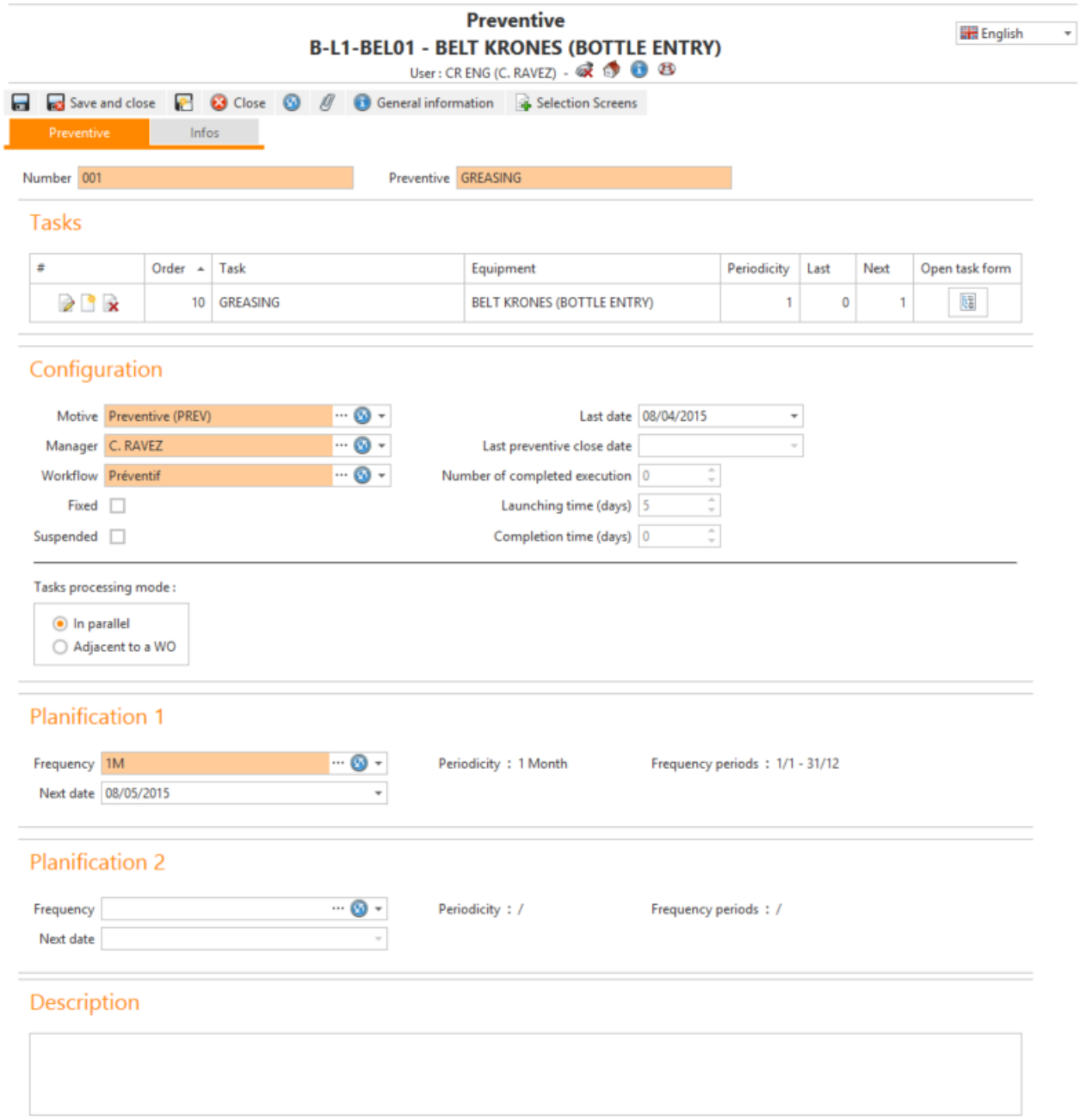
CHAPTER 2 / Preventive maintenance

Preventive maintenance is defined in the equipment screen. In fact, PM is constructed by attaching maintenance tasks to equipment and in defining frequencies (calendars, counters, downtimes…)

A few days before the deadline (depending on the timing for task launch), AQ Manager Full Web will generate the Work Orders.

Defining preventive maintenance

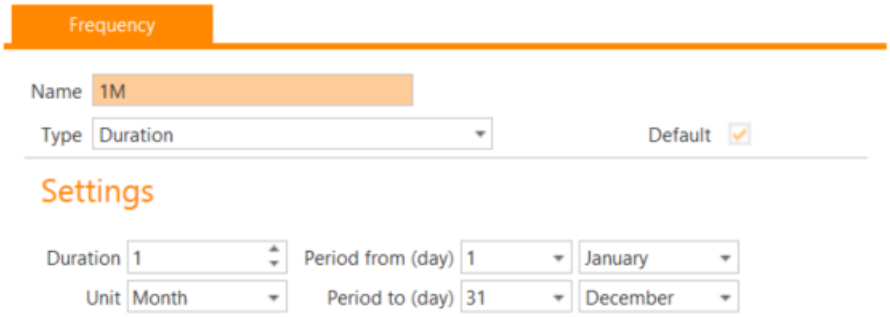
When the editing screen for an element of equipment is open, click on the Preventive link (+ the « New » button) in the sidebar menu. The screen that opens lets you link maintenance tasks and to configure the settings described below.



Number and type of maintenance	Number and name attributed to the maintenance. The number must be unique. The name must be the same as on the Work Order.
Tasks	Chose the maintenance tasks to add.
Configuration	
Motive	Defines the motive inherited from the WO generated for this maintenance. The Work Orders will, in particular, allow for the distinction between the types of operations: maintenance, regulatory, calibration… The list of motives can be customized.
Manager	Defines the person in charge of issuing the WO generated. The decision to implement automatic generation of start-up maintenance could be limited to this person in charge. Thus, it is possible that only he could generate some start-up maintenance.
Workflow	Defines the Workflow to which the WO will be attached and thus the validation stages that the WO must go through.
Task execution mode	In case several tasks are associated to the same maintenance, the user has the choice of creating a single WO grouping the different tasks or to create a WO for each task.
Last date	Allows you to input the date of the last maintenance operations. When this has been defined and the maintenance set up, this field will update after each maintenance WO has been completed.
Fixed	If this box is checked, the maintenance will be generated as invariable, which means that delays or advances will not affect the schedule for the next operations. If the box is unchecked, the next maintenance will be scheduled in function to the actual date the previous WO was completed.
Suspended	Let's you suspend the maintenance and not generate any more WO for as long as the box is checked.
Number of completed execution	Counter: displays the number of WO already performed for this maintenance operation.
Launching time – Completion time	For information. Inherits the related tasks. (See also Adding tasks and ranges)
Planification 1 – Planification 2	Two frequencies (see next paragraph) can be associated to the same maintenance. If that is the case, the AQ Manager Full Web will generate a WO for the first scheduled term.
Description	Description of the maintenance. Open text field.

Defining frequency

You can set up as many frequencies as necessary. To create a new frequency, click on New in the frequency search screen.

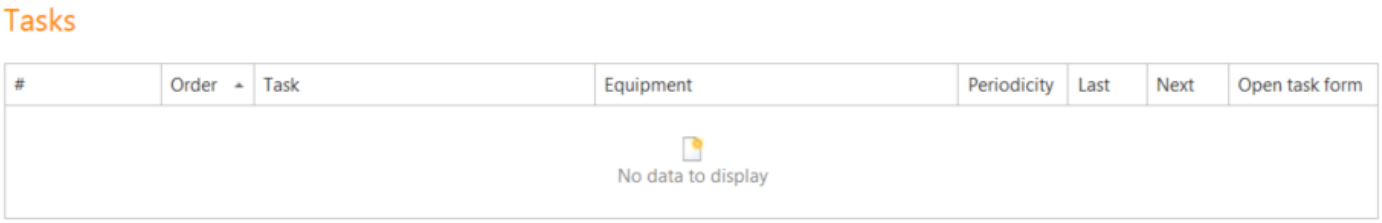


Name	Name given the frequency by the user
Type	Duration, counter, operating hours, or downtime. You can add the notion of fixed days.
Settings	Frequency must be defined with a numerical value and, for the “Duration”, by a unit: days, weeks, months or years. The “Period from- Period to” time frame lets the user decide if he maintenance associated with this frequency will be generated all year or only for a specific period. If a “fixed day” type is chosen, then checkboxes for the weekday(s) scheduled must be checked.

Adding tasks and ranges

To add tasks to the maintenance, click on the Tasks button in the sidebar menu in or in the center of the screen.

It is also possible to add tasks or ranges by clicking on the button Selection Screens situated at the top of the screen.



After clicking on this button, choose the tasks to add and transfer them by clicking on Select

For each task, you can define a different periodicity. Thus, maintenance that is generated every month will attribute tasks with their own periodicities. If you add a task with a periodicity 1, this task will be present for all the WO generated; in our example below, this is every month.

A second task could be associated with a periodicity 3 that would therefore only be present on 1 WO in 3.

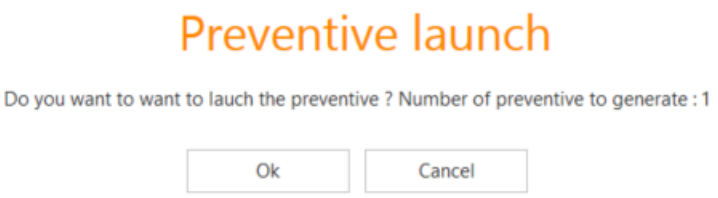
#	Order	Task	Equipment	Periodicity	Last	Next	Open task form
	10	GREASING	BELT KRONES (BOTTLE ENTRY)	1	0	1	
	20	MOTOR VERIFICATION	BELT KRONES (BOTTLE ENTRY)	3	0	1	

The two first WO generated are composed of a single task while the third WO is composed of 2 tasks, periodicity 1 and periodicity 3.

Generating preventive

Generating preventive can be done in different ways. This can be automatic at start-up or manually launched by the user. The two possibilities can be configured by user groups.

If automatic generation has been activated, the following message appears at the launch of AQ Manager Full Web:



By clicking on OK, the corresponding WO will be generated and added to the list of pending WO.

The second way of generating maintenance is to do so manually from the equipment search screen. Indeed, the “Generate preventives” function is found in the sidebar menu of the equipment search screen. This function will generate the preventive for the equipment selected in this screen.

Manual generation can also be carried out in a forced manner, which means with no control by the application on the scheduled dates. To so do, you need to use the “Force the next generation of preventive” in the sidebar menu in the preventive search screen.

Then the user, not the application, controls the scheduling for the following maintenance. The preventive is generated for all the selected lines. This screen displays the usual generation date in order to allow you to choose whether or not to force the preventive planning.

CHAPTER 3 / Work requests

A work request is the first of all the operations, if you follow the full Workflow procedure. This is often used to allow departments outside maintenance to make their requests also. On the other hand, operations carried out by the maintenance staff are usually created directly in the Work Orders screen, without going through the work request process.

Work request search screen

This screen lists the existing requests. To create a new one, click on 

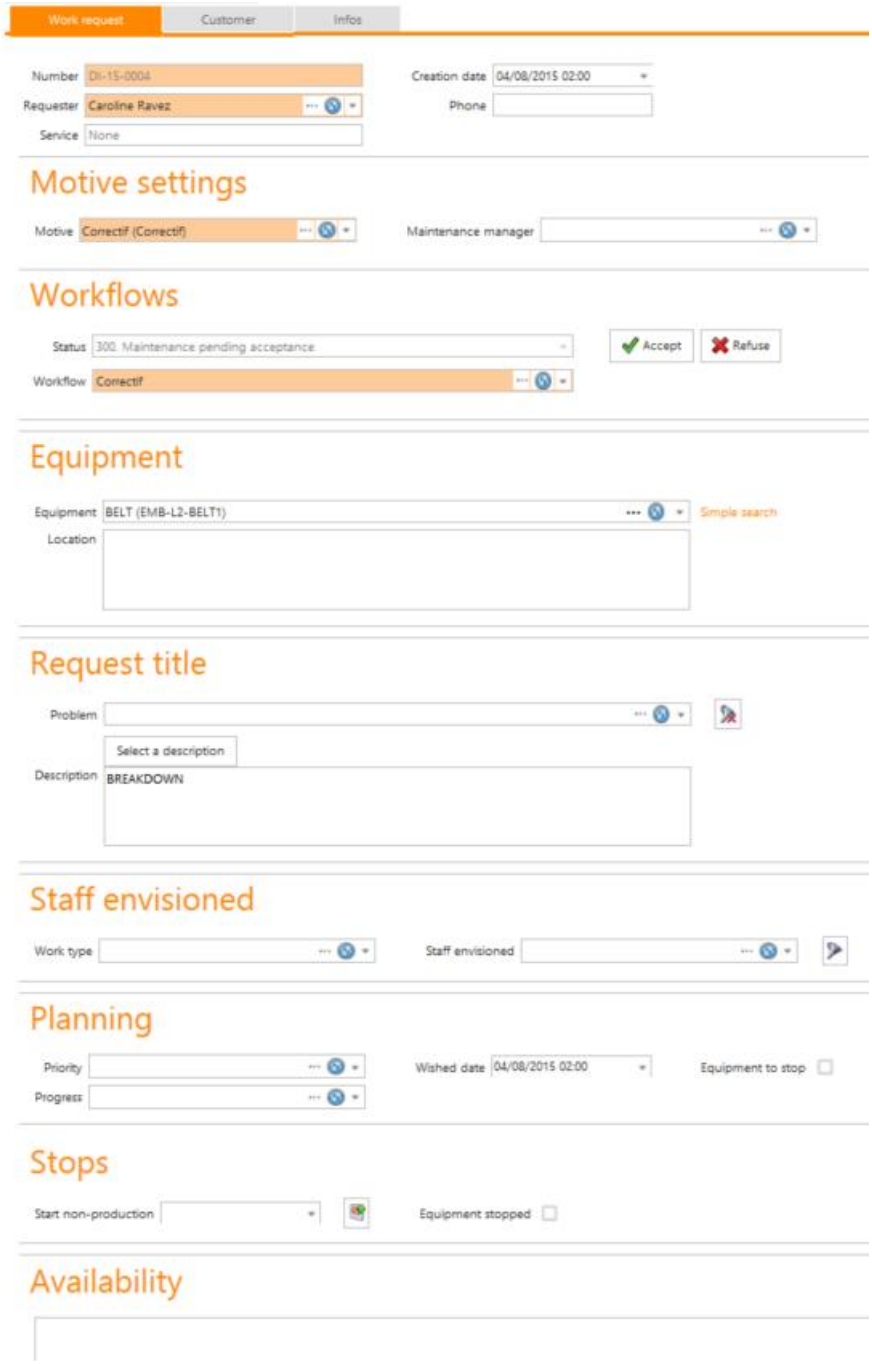
and the mainteance request search screen will open a blank form.

Sidebar menu features

Work Order	Opens the list of work orders generated after you have checked the maintenance requests
Work request 01	Prints the work requests
Create a work order	Let's you create a work order linked to the selected work requests (one new work order per selected request). This requires that the request has been approved. Approving a work request automatically generates the first work order.
Sign the workflow	Moves the Workflow to the next step.

Work requests screen

Work Request tab

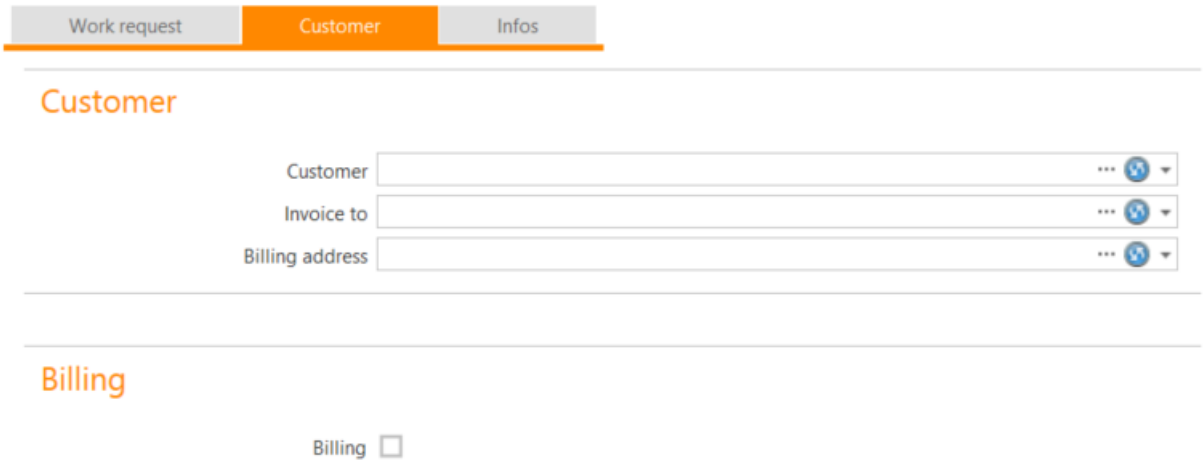


Number	The work request number is generated automatically.
Creation date	Date the WR was created. Automatic update when the record is saved.
Requester	The person who issues the request. By default, the user who is connected.
Service and phone	Requester's service and phone number, inherited from the user profile.
Motive	Motive for the work request

Maintenance manager (motive)	Responsible for responding to the maintenance request, automatically displayed according to the selected motive. This value can be changed or zero if there is no specific technician responsible.
Workflow	Workflow to which the maintenance request is linked. Used to define the steps to follow and the necessary validation.
Status	Displays the progression of the WR in the Workflow.
Equipment	Equipment for which the maintenance is requested. You can modify the search method for the dropdown list, which is Basic Search by default. By clicking on “Simple search”, the other search methods are displayed: Advanced search, Search by address, Location tree, Function tree or Network tree. Selecting one or the other search mode changes the content in the dropdown list.
Location	If the equipment is not known, the user can define the location in the open text zone; The maintenance department can input the equipment later, before generating the WO. The equipment or its location is necessary to create a WR, with at least one of the two fields filled in.
Problem	Let’s you choose a problem in the dropdown list. By default, AQ Manager Full Web only displays problems associated with the selected equipment. To display all problems, click on  . These problems will update the equipment history and allow for analyses such as Diagnosis (available in the Statistics menu).
Description	This zone lets the user clarify the problem or the name of the request. By clicking on “Open” you can choose from a list of standard description of the problems stored in the application.
Availability	Open text field that lets the requester indicate the availability of the equipment.
Work type	Allows the user to stipulate the work type required to carry out this maintenance
Staff envisioned	Sends the WR to a staff member. This employee will be envisioned to act on the first task of the WO, created upon approval of the WR.
Priority	The priority level given to the request. This list can be configured. The choice of priority will change in function of the first parameter defined for the priority.
Wished date	The date at which the requester would like the maintenance done.
Equipment to stop	Shows whether or not the operation requires the equipment to be stopped.
Start of non-production	Let’s the user define the date and time at which production will be halted. In the Maintenance report, the date and time of production shutdown can be input.
Equipment stopped	Checkbox that lets the user define if the equipment is actually stopped. If this box is checked, a field appears letting the user input the date and time the equipment is stopped.

Customer Tab (Optional Module)

This tab lets the user consult or input data related to the customer or the equipment owner. These parameters are used in invoicing the service provided.



CHAPTER 4 / Work Orders

The work orders screen allows the user to consult and create work orders in the AQ Manager Full Web application.

A work order can be created directly in this screen, or created after a work request, or automatically generated as part of a preventive maintenance plan.

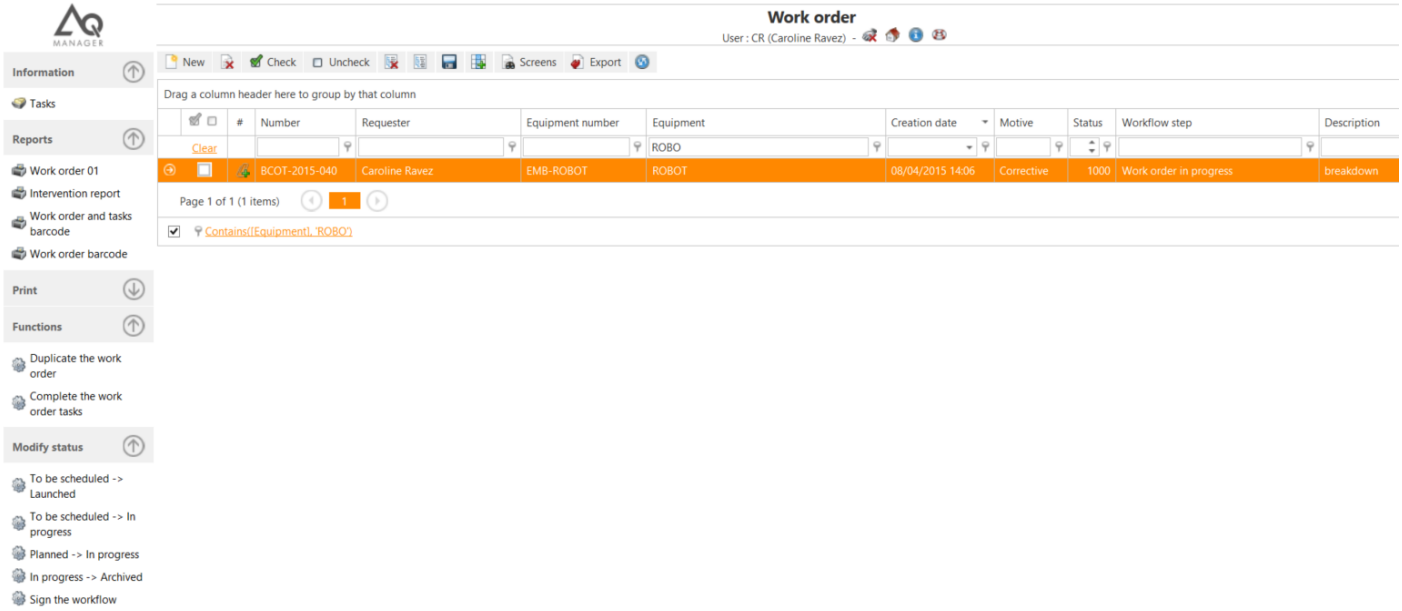
A work order must be linked to an element of equipment. Whereas a work request can be created without equipment as long as the location field is filled in, a work order requires an element of equipment to be input.

Work orders are always broken down into one or more tasks.

Work Order Search Screen

This screen displays the list of work orders recorded in the AQ Manager Full Web application.

To create a new work order, click on New . An existing work order can also be copied by clicking on "Duplicate the work order" in the lateral sidescreen.

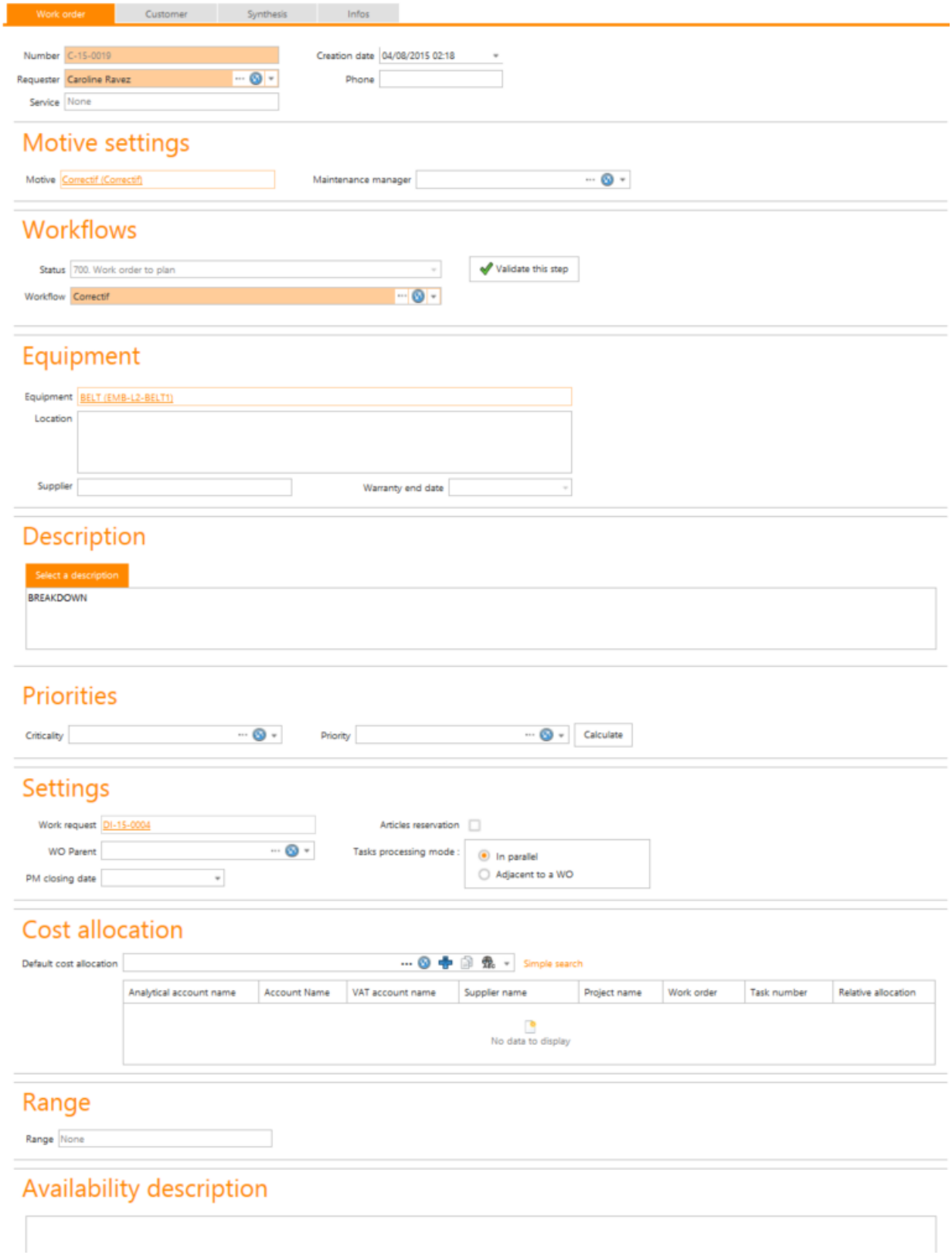


Sidescreen menu features

Tasks	Opens the tasks search screen for the selected WO.
Work Order 01	Prints the selected WO with the Work Order print model 01.
Intervention report	Prints the selected WO with the Intervention Report print model 01 (included the totals recorded by the technicians).
Work order and tasks barcode	Prints the list of selected WO and their tasks with the related barcodes.
Work order barcode	Prints the list of selected WO with the related barcodes.
Printing	Allows the user to print out the WO using other model reports (different layout).
Duplicate the work order	Duplicates the selected Work Orders
To be scheduled -> Launched To be scheduled -> In progress Planned -> In progress In progress -> Archived	Let's you move from one step in the workflow to the next, even if there are intermediate ones.
Sign the workflow	Let's you advance the selected WO in any step of the workflow.

Word Orders editing screen

The Work Orders editing screen lets you consult and input the main information for each WO. Each Work order has at least one task. These tasks include a series of information on the work order (these will be discussed later on in this document.)



The main work orders screen includes fields inherited from the work requests screen, as well as from other complementary screens.

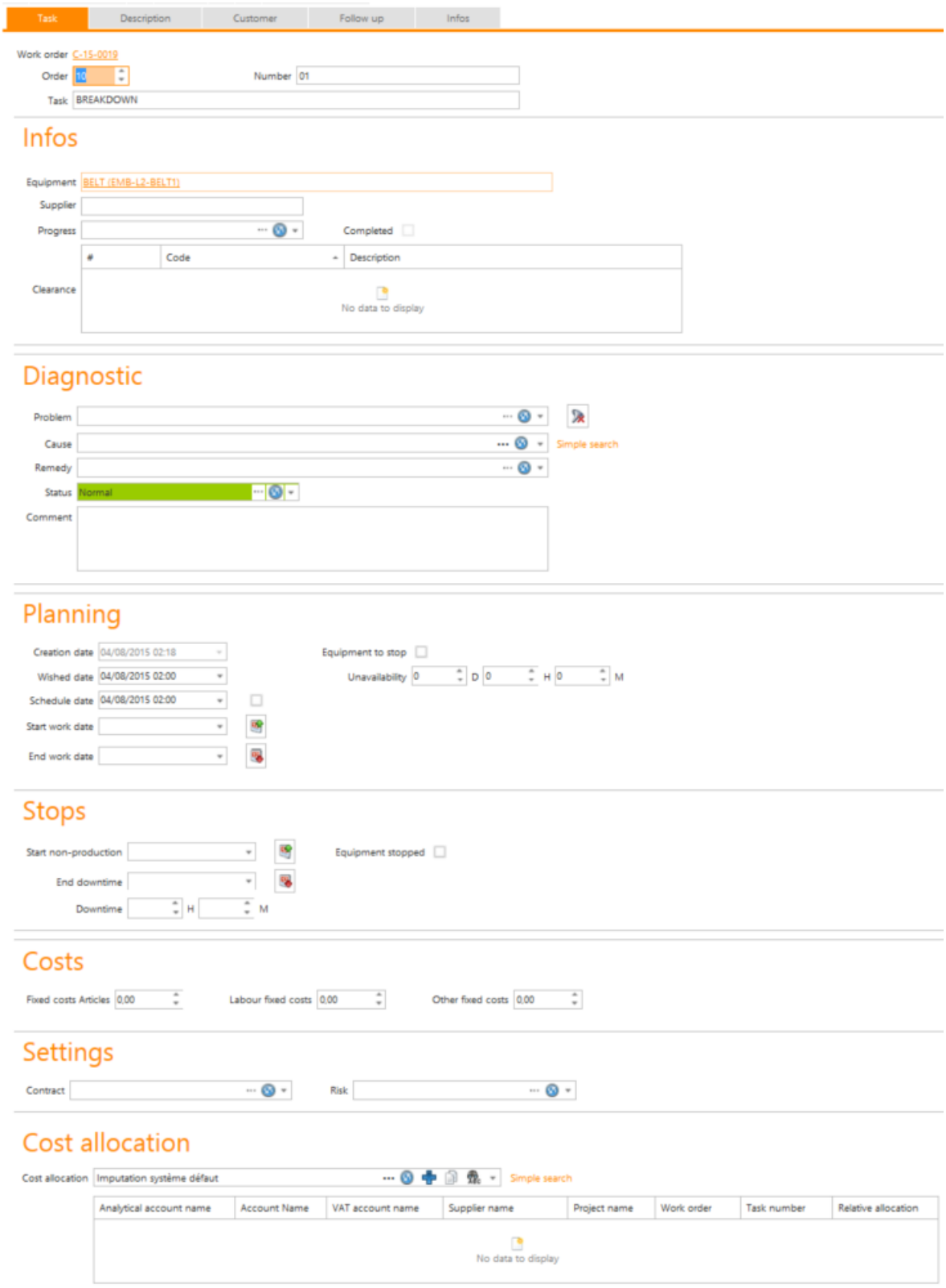
Criticality	Displays the equipment criticality, inherited from the Equipment sheet.
Work request	Shows the Work Request number that may have originated the WO.
WO parent	Displays the parent WO. Allows WO tree views to be created.
Maintenance end date	Date used to calculate the next occurrence where preventive WO are concerned.
Article reservation	Indicates if the articles required for the WO must generate stock reservations or not. If yes, this will affect out-of-stock situations and order proposals.
Cost allocation	Allows the WO costs to be imputed in a cost accounting system.
Range	Let's the user link a range to the Work Order.

Sidebar Menu features

Tasks	Displays the list of tasks in the Work Order. New ones can be added. Each of these tasks included a variety of information. These will be discussed further in the following point.
Simplified intervention reports	Link to the Simplified Intervention Reports screen, allowing totals to be recorded
Intervention reports	Link to the Intervention Reports screen, allowing for work hours to be input.
Synthesis	Link to a summary screen for costs related to this WO.
Reports	Links to various printable reports.

Work Order tasks

A Work Order consists in at least one task. A lot of information is managed for each task. For example, in the preventive maintenance tasks previously discussed, there is the check-list, the articles to reserve, the estimated man-hours, the scheduled staff and sub-contractors …)



Other information is used mainly to do the intervention report.

Order	Order of the task in the Work Order.
Number	Task number, taken from a preventive maintenance task.
Task	Name of the task.
Equipment	Equipment involved, which may be different from the WO equipment.
Progress	Allows the user to input the amount of progression without modifying the workflow stage (customizable list). For example: waiting for parts, waiting for supplier quote…
Clearances	Allows the accreditation required to be input for the technicians
Problem	Allows a problem to be identified. This field, displayed as a customizable dropdown list, statistically allows for recurring failures to be found.
Cause	Let's the user input the cause of the breakdown. Customizable dropdown list.
Remedy	Let's the user input the solution provided. Customizable dropdown list.
Status	Indicates the equipment operating status at the time the WO is consulted. Modifying this condition in the WO directly updates the condition on the equipment sheet and in its tree view.
Comments	Open text field for the technicians' comments.
Wished date	Expected intervention date, at the latest
Scheduled date	Date the operation was scheduled.
Start and end work dates	Start and end dates and times for the technicians' interventions.
Equipment to stop	Does the equipment have to be shut down to carry out the task?
Unavailability	Duration for which the equipment will not be available
Start and end of production shutdown	Date and time for the start and end of production shutdown -> Automatic calculation of non-productive time.
Equipment stopped	Was the equipment stopped?
Fixed costs	Allows the fixed costs to be added to the calculated costs (service provided, articles consumed,…)
Contract	The specific contract for this maintenance.
Risk	Risks related to the operations
Imputation	Cost analysis account in which the cost of the maintenance will be imputed.
Description tab	Detailed description of the maintenance required.
Security description	Safety instructions for the maintenance operations

Sidebar Menu features

The sidebar menu features are the same as those discussed in the previous chapter on preventive. The only difference is the addition of times and provisional costs. Finally, a link to the Simplified Intervention Report allows man-hours and actual costs to be input.

CHAPTER 5 / Intervention reports

There are two types of screens for inputting intervention reports:

- Intervention report
- Simplified intervention report

These two screens have the same use, but a different presentation. They allow the user to input intervention reports, articles consumed, work carried out by employees or sub-contractors,…

These screens also allow you to complete existing work orders and create new WO directly when creating a new intervention report.

The main difference between the intervention reports and the simplified intervention report is in their layout and the tasks in the work order.

If a work order, which includes several tasks, is opened with the intervention reports, all the tasks it includes will be displayed.

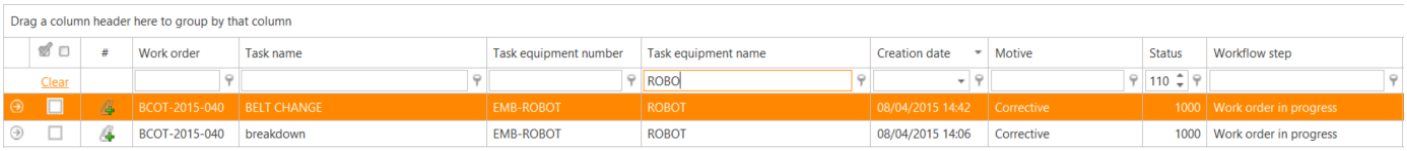
On the other hand, the simplified intervention report screen will display a report for each task in the WO.

Thus, in the search screens, you can see a single line per work order in the intervention reports, whereas in the simplified intervention reports, you can see the same work order several times, as many times as there are associated tasks.

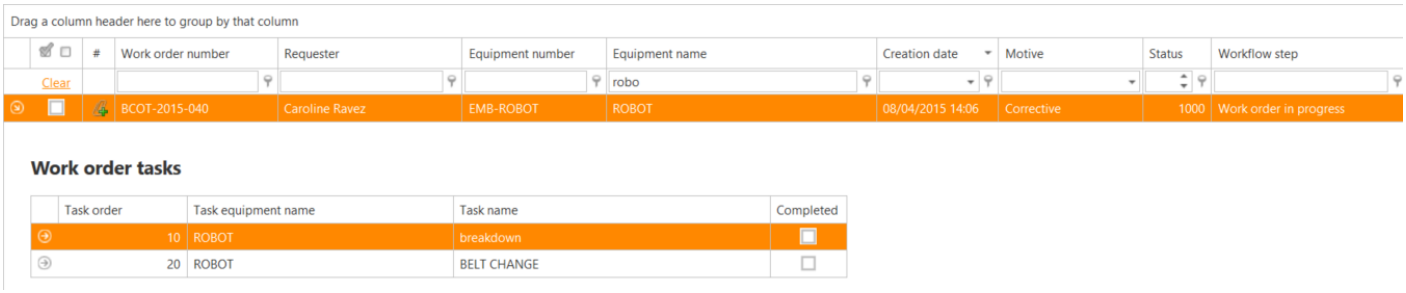
Here is an example of the two search screens, each with a work order with two tasks:

Simplified interventions reports (Search)

Intervention Reports (Search)



To create a new intervention report (and therefore a new WO) click on New. When you record the report, AQ Manager Full

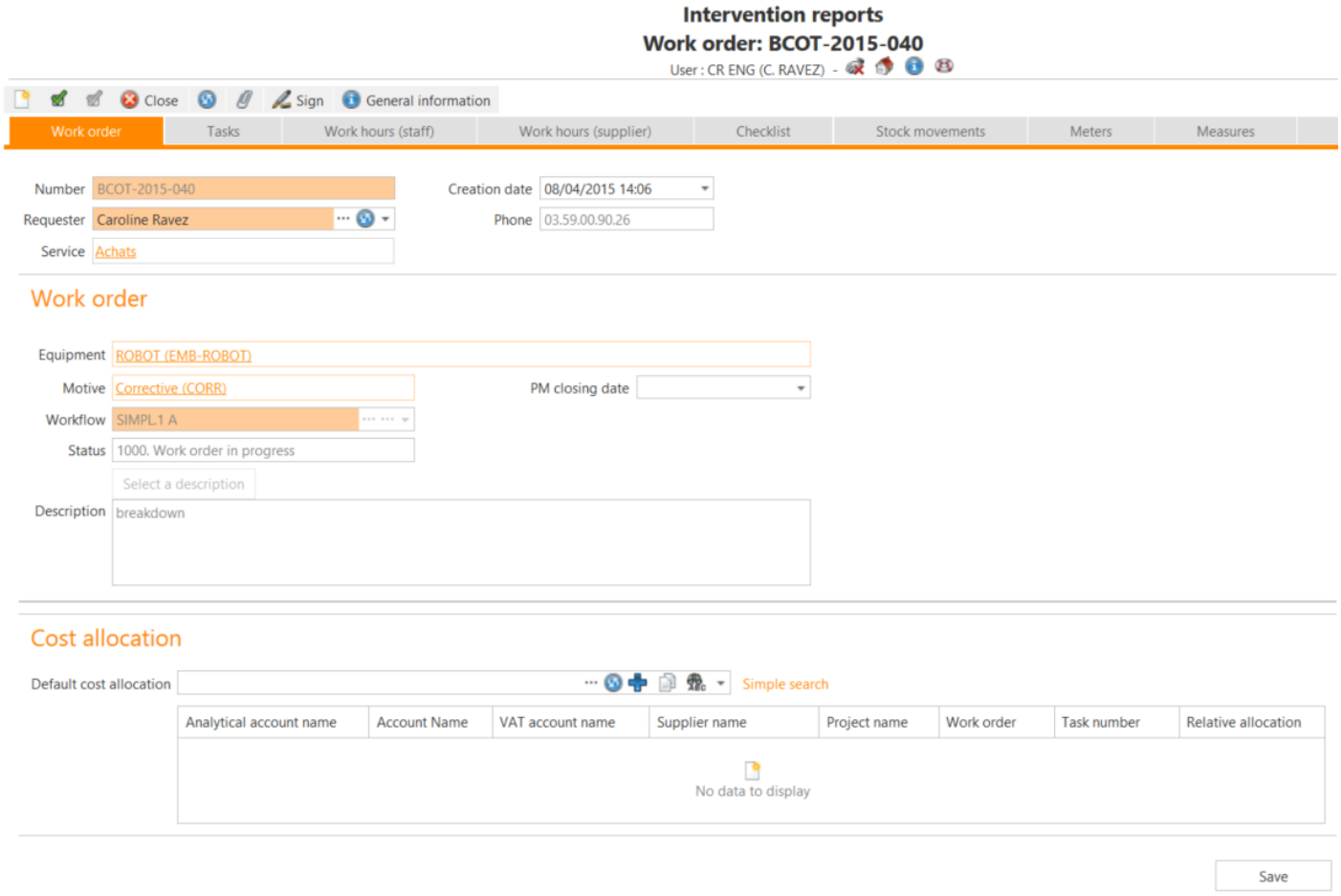


Web will automatically create a new WO to which all the totals from the current one will be linked.

Intervention reports screen

The Intervention reports screen is made up of different tabs which are presented below.

Work Order tab



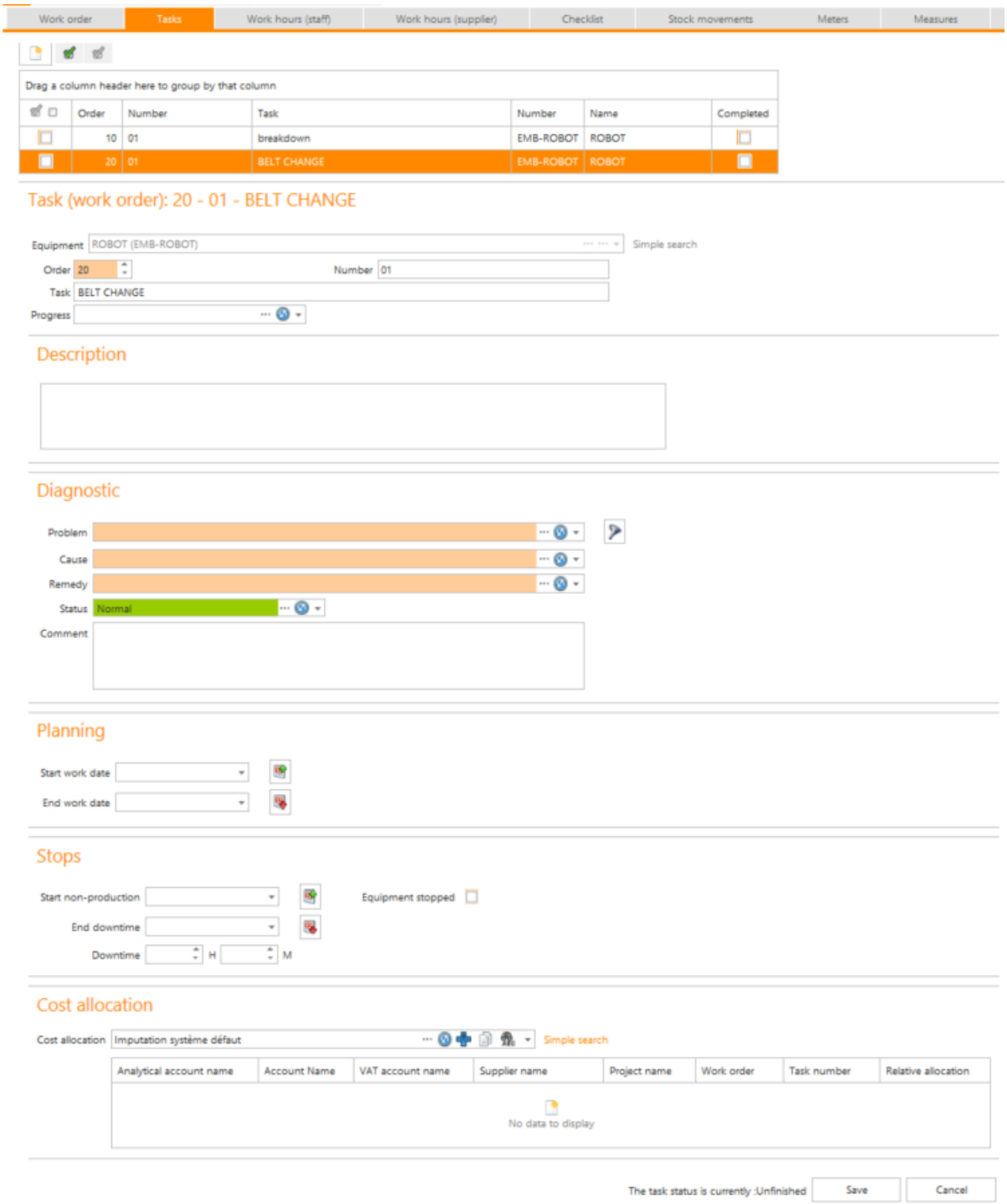
This screen displays the main information in the work order. This data is either inherited from previous work order or is input in the case of a new report.

These fields are described in CHAPTER 4 / Work orders, below.

In order to input work hour, articles consumed, etc, the work order status must be at “1000: Work order in progress”.

Tasks tab

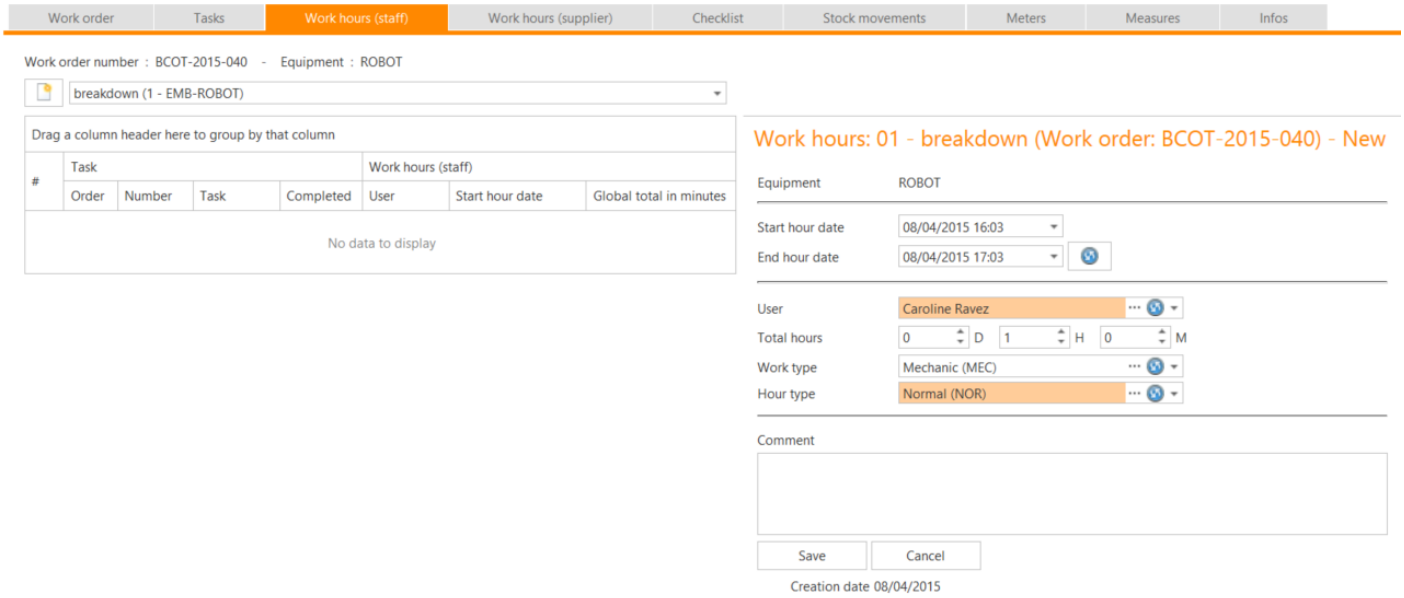
This tab displays the task(s) associated with the work order. You can add a task by clicking on New at the top of the tab.



This tab allows you to fill in genera informaton on the task, such as observations, problem / cause / remedy (customizable list), production shutdown time, and machine down time, as well as the dates of the beginning and end of the operations. This tab also lets you specify the accounting imputation for the task.

Work hours (staff) tab

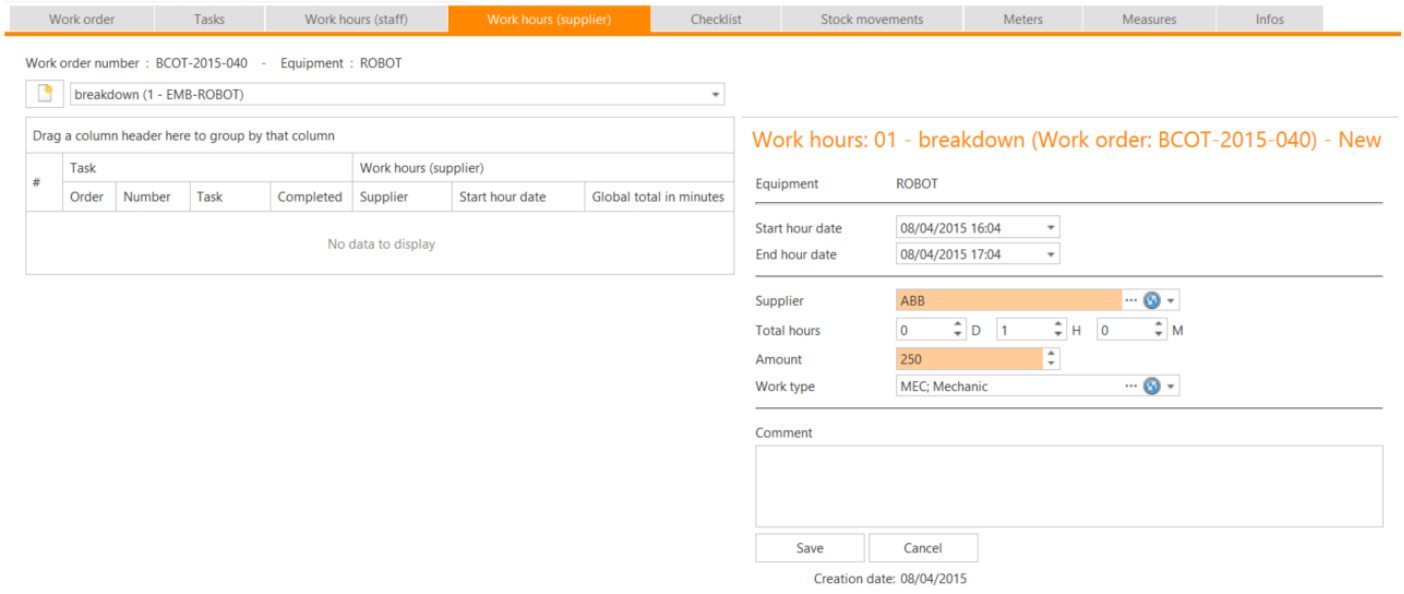
This tab lets the user input the time spent by the employees on the task in the selected WO. To input time, choose the task in the dropdown list at the top left of the screen. Then click on the New button. A timesheet window will open on the right of the screen.



In the window, input the date of the operations, choose the person who carried them out and if required their job and a comment. A click on the Save button at the bottom of the screen will validate the report. The man-hours then appear in the table on the left of the screen. Timesheets can be edited by double-clicking on the line.

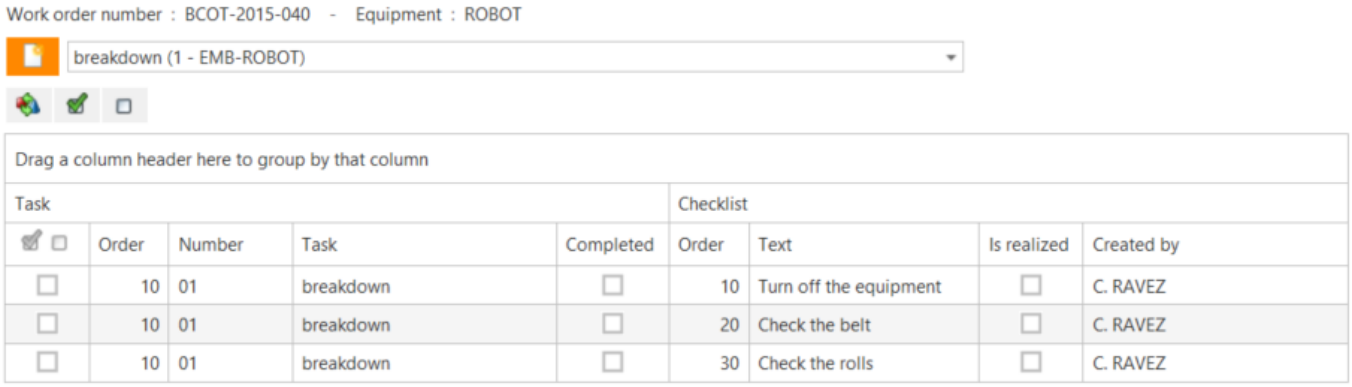
Work hours (supplier) tab

This tab allows the user to record the time spent by sub-contractors on the task in the selected WO. This screen is identical to and functions in the same way as the previously described screen. The only difference is that it is possible to input the amount invoiced by the sub-contractor for the operations.



Check-list tab

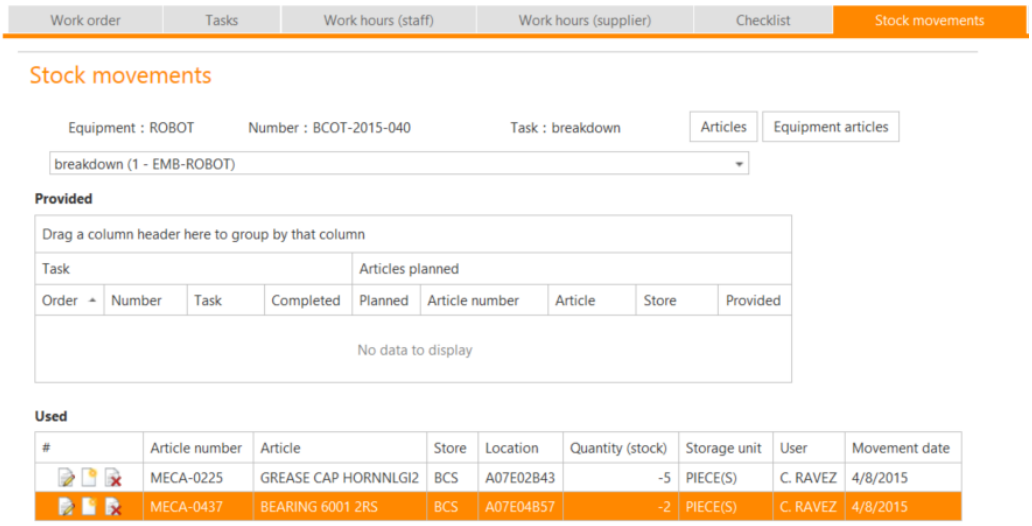
This tab lets the technicians validate the different points performed on the check-list. To validate a step, double-click on the step and check the “Is realizes” checkbox, then save the record. While inputting, you can insert a comment about the completed step. This comment can automatically create a new work request for the same equipment, with the comment as the title and associated with the original work order. This function is only possible if the *Automatic creation of a work request (check-list)* is activated in the functions screen for the group which the user is in.



Another method allowing you to check off the tasks more quickly is to use the or buttons above the tasks in the check-list. The button lets you check off all the steps in a single click, while the button inverses the status of the selected tasks. To select the steps, check the box on the left of the line.

Stock movements tab

This tab lets you input the articles used during the operations.

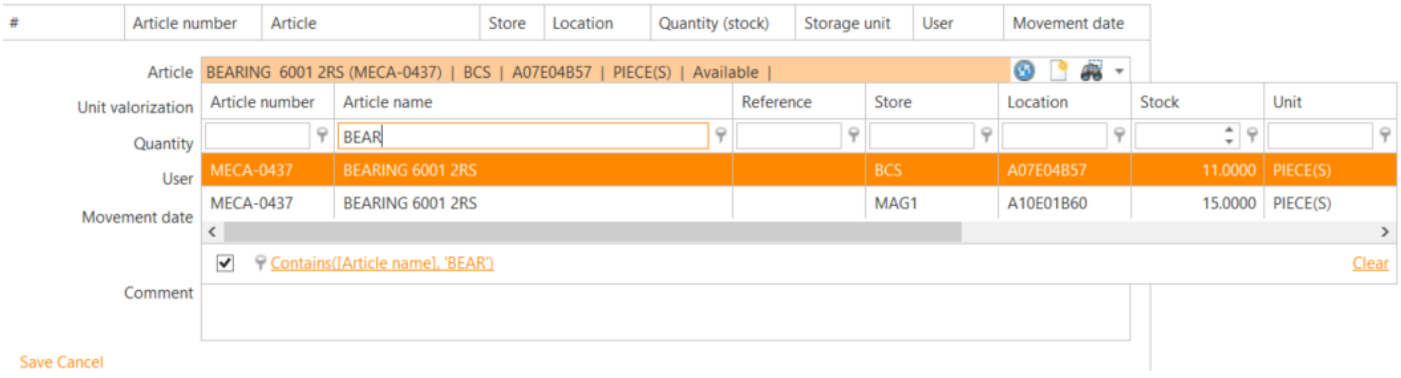


There are two tables in this screen:

The first displays the list of articles scheduled for use in the intervention. You can confirm the quantities used by double-clicking on each line in the table.

The second one displays the articles that were actually consumed. To input a new article, click on in the center of the table, if no stock movement has been created, or on the left of each line movement record if movements have aready been input.

After clicking on this button, an input window appears. Click on the articles that are listed as in stock in the various stores and storage locations. It is therefore normal to see an article several times.



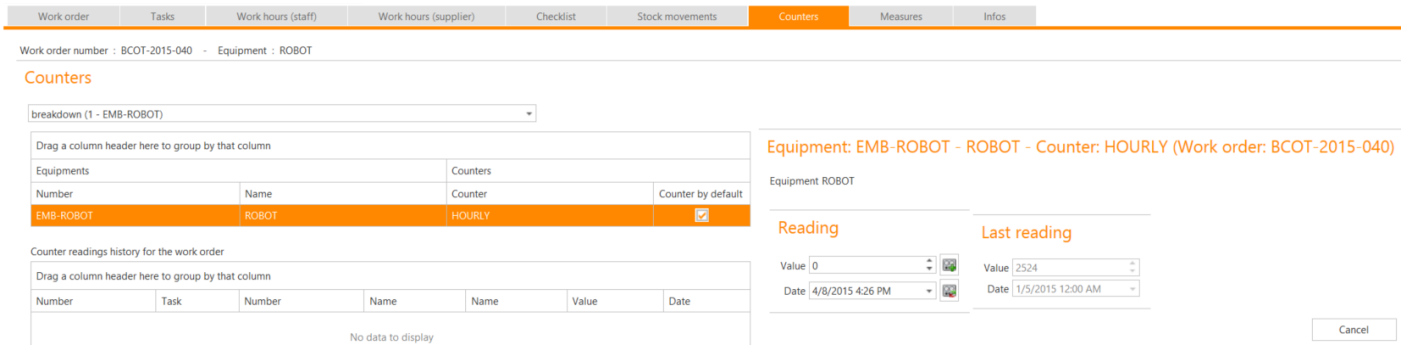
To save the record, click on Save

The “Articles” button is in the upper right side of the screen. It allows you to select the articles to be consumed, in a window in the form of a search screen. Check the articles to use and click on the “Select” button in the upper left. The window will close and AQ Manager Full Web will create a withdrawal for each article selected.

The “Equipment Articles” button (at the top right of the screen) lets you select the articles in the BOM for the equipment, in a search window. The selection and the consumption are input as in the previous paragraph.

Counters tab

This tab allows for the equipment counter readings to be input during the maintenance operations. If the Work Order has several tasks that involve different equipment, you can input a reading for each one.

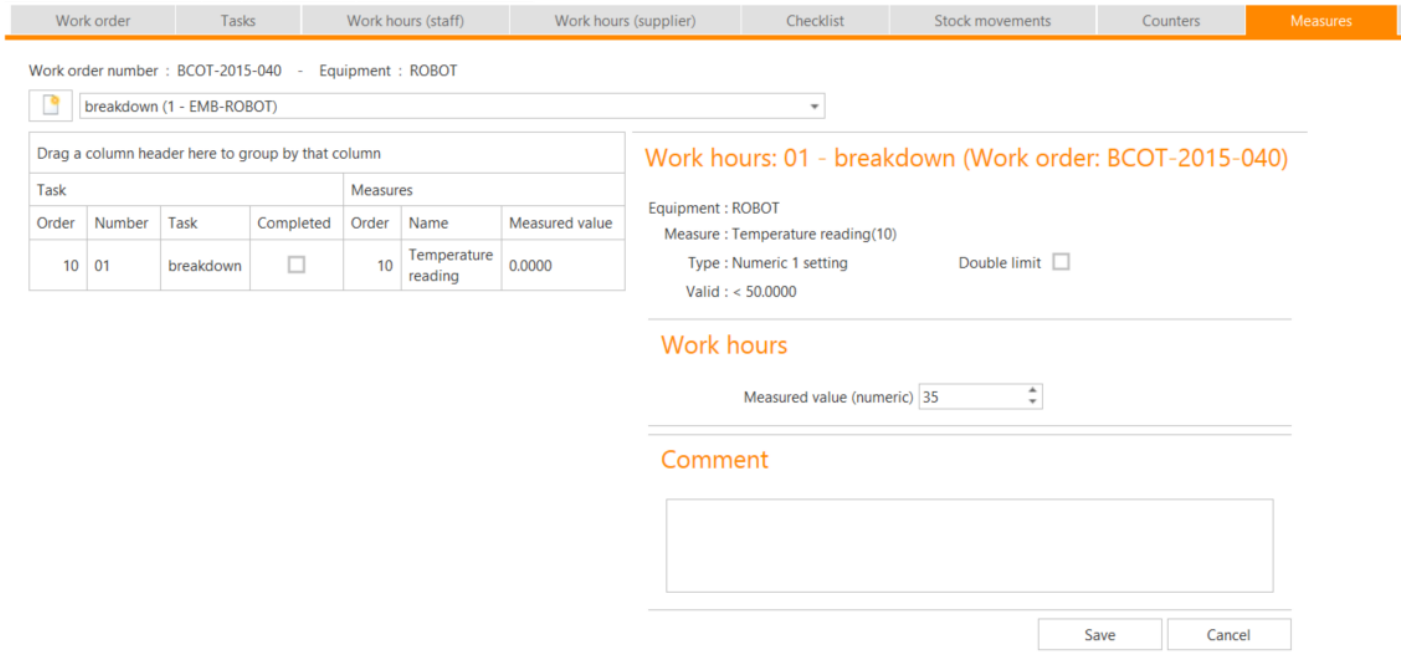


The left table displays the list of counters for the equipment involved.

The right window allows the counter readings to be input, in a screen that is identical to the one described in the chapter on Equipment.

Measures tab

This tab displays the list of measurements to take during the maintenance operation. These measurements, which are listed in the task screen, are also used to follow up on settings and set off alerts or create a WO if certain limits are exceeded.



To input a reading, double-click on the lines in the table on the left of the screen.

It is also possible to input a new value by clicking on  in the top left of the tab.

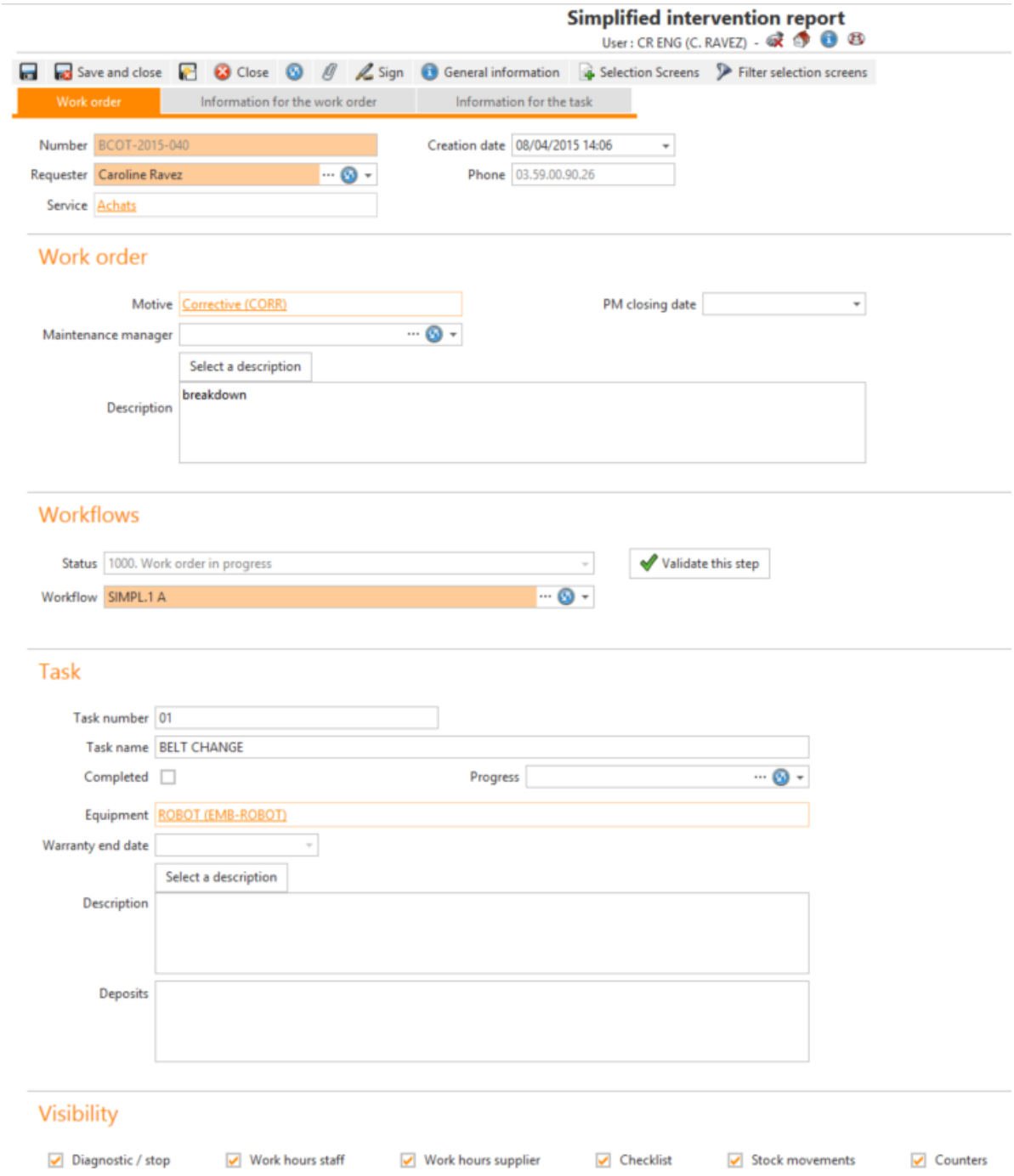
Info tab

This tab lets you display customizable fields allowing you to input complementary information.

Simplified intervention report screen

This screen is used in the same manner as the Maintenance reports screen described before: to input times, articles and comments after an operation.

The simplified layout for this screen (all in the same tab) is what makes it different. Another special characteristic is that the simplified intervention report manages tasks individually (and not pooled into a single tasks as in the intervention report screen).



In the first part of the screen, you will see the main information in the work order, such as motive, requester, date created, WO description and the end date of the maintenance operations (which allows you to define a date other than the archived one when scheduling the next maintenance operations.)

Then you will find a frame for Workflow, with the name of the Workflow implemented and the step in the Workflow in which the WO is found. “Validate this step” lets the user complete the Work Order.

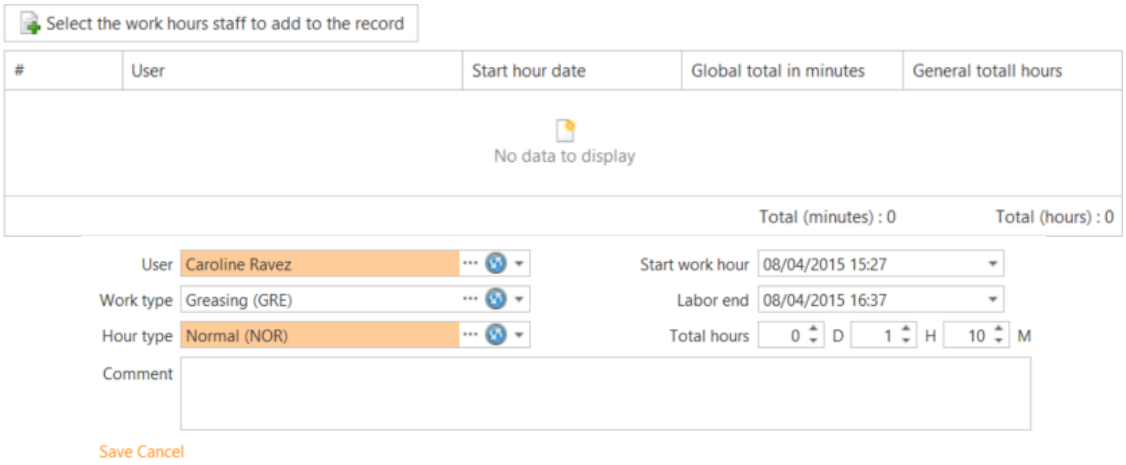
The next frame displays the information about the task (name, number, description, and instructions). Click on “Completed” to close the task.

Finally there is a frame below with checkboxes that displays or hides the timesheets. These include a window with Diagnosis/downtimes, Staff timesheets, Subcontractor timesheets, Check-list, Stock movements and Counters (it the equipment has any.)

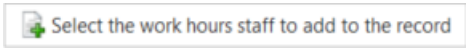
In each of these panels, inputting new total is done by clicking on 

Work hours staff

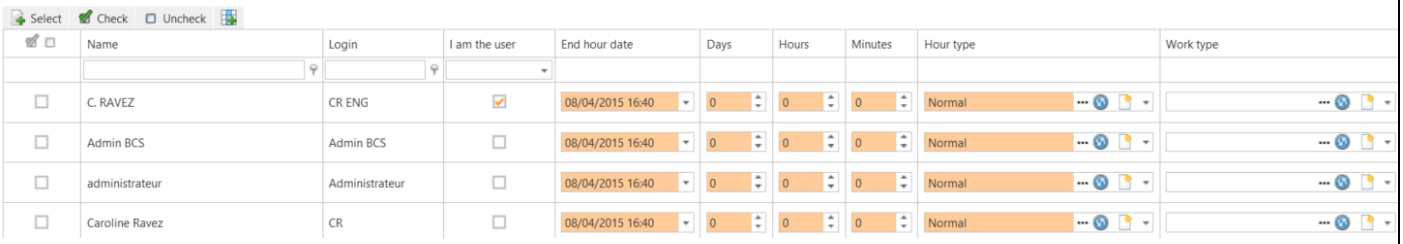
To input work, click on . The following screen will open:



You can select the name of the person who performed the job and the profession linked to the WO.



If you want to add jobs for several people at the same time, you can click on

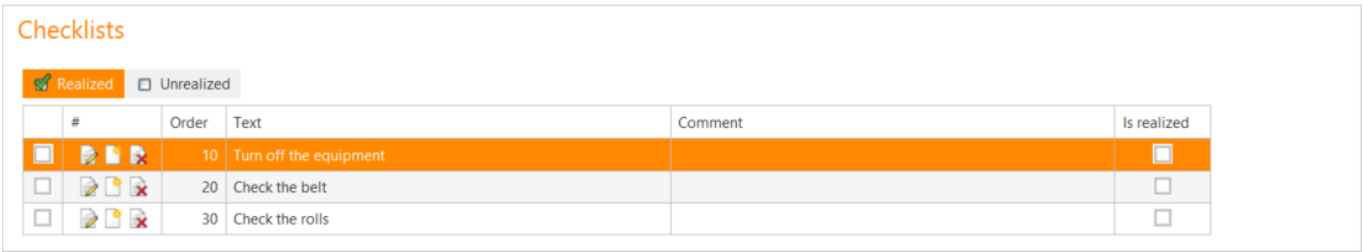


which opens the following screen:

All you have to do then is to select the staff that performed the job and enter the timesheets for the task. Then click on “Select” to add these jobs to the simplified intervention report.

Work hours sub-contractor

This frame is used in the same way as the one for work hours staff, with only the dropdown sheets being different. You have an extra possibility to input the amount invoiced for the service.

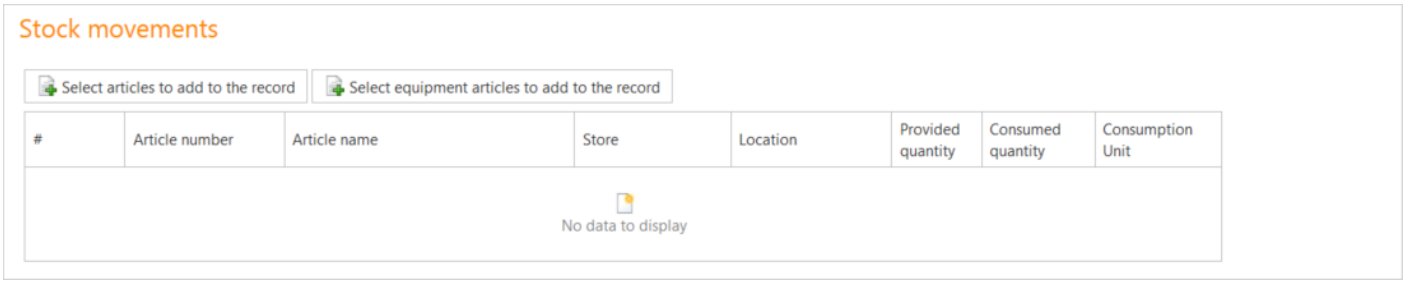


Check-List

To check the boxes in the check-list (“done”) field, double-click on 

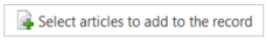
each line, check the box and save.
It is also possible to check several lines at one time using the buttons.

To do this, check off all the steps that have been finished (using the upper left checkbox) and click on one of these buttons to check all or uncheck all of the steps.



Stock movements

To consume an article in a simplified intervention report, click on . The screen opens a dropdown list allowing you to choose the article to use from the stock. Be aware that an article can appear several times if it is available in more than one store or location or has multiple serial numbers.

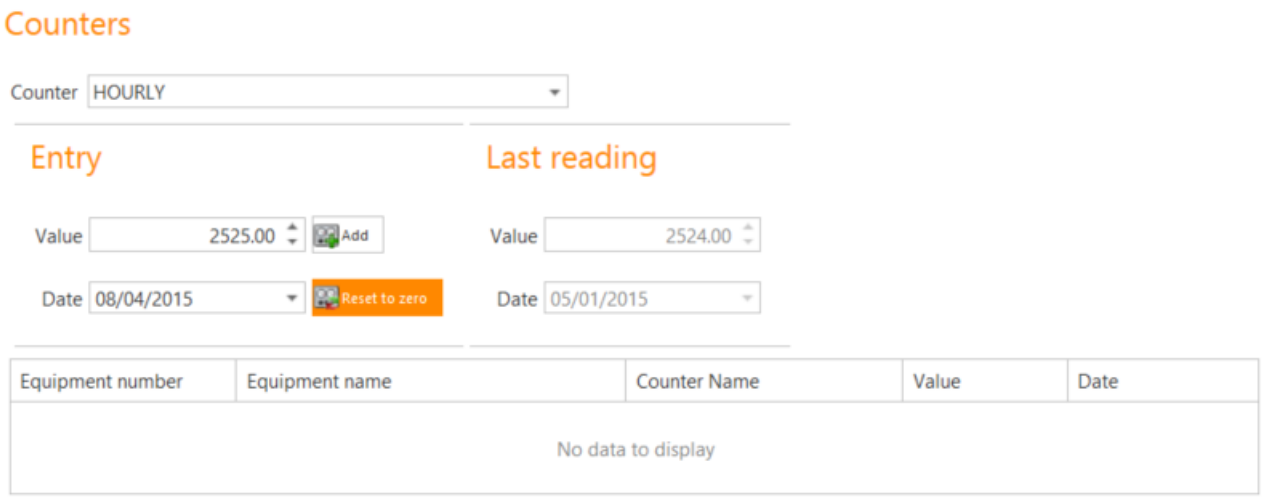


It is also possible to select several articles at one time by clicking on or on .

These buttons open a selection screen allowing you to check the articles to use and input the price.
The first button displays all the articles in stock and the second one displays the articles in stock that are also listed on the equipment specifications sheet.

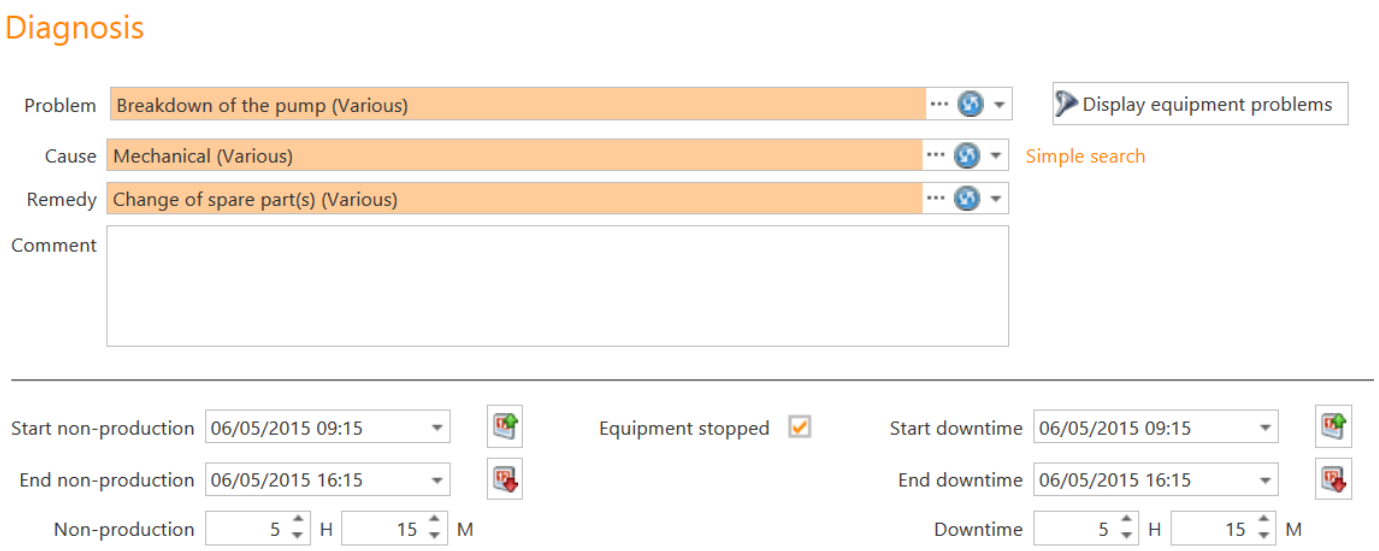
Counters

If the equipment that requires maintenance has a counter, you can display the frame below. If there are several counters, these will be shown in a dropdown list at the top of the module.



Downtime diagnosis

In this field, you can select a problem, a cause and a solution characteristic of the operation. This will allow you to track the operations that concern the same problem or cause.



This module also displays input fields for non-production and downtime. You can input the downtime or non-production in hours and minutes and also indicate the dates and times of the start and end of the downtime or non-production time. AQ Manager Full Web will then calculate the difference between the two.

CHAPTER 6 / Alarms

Three preset alert screens are available in the AQ Manager Full Web application. To access them, click on the Alarms icon in the Equipment Workflow.

Work synthesis

This screen displays the summary tables for the WR and WO, by motive and by status within their Workflows. A simple click on one of the values in the tables lets you open the screen for the WR or WO by filtering the records implicated in the alert.

Work request

Check | Uncheck | Screens | Export

Drag a column header here to group by that column

Motive	New WR	Acceptance pendin	Pending alarm	Maintenance pending	Alarm to accept
Corrective	5	0	0	6	0
	Sum=5	Sum=0	Sum=0	Sum=6	Sum=0

Page 1 of 1 (1 items) 1

Create Filter

Work orders

Check | Uncheck | Screens | Export

Drag a column header here to group by that column

Motive	New	Accepted	To plan	Planned	Launched	In progress	Completed
Corrective	0	0	2	1	0	25	2
Other	0	0	0	0	0	2	1
Preventive	0	0	0	2	0	6	0
	Sum=0	Sum=0	Sum=2	Sum=3	Sum=0	Sum=33	Sum=3

Page 1 of 1 (3 items) 1

Create Filter

Alarms preventive

This table lists the preventive maintenance operations that have not yet been scheduled even though their due date has expired.

Alarms preventive

Check | Uncheck | Screens | Export

Drag a column header here to group by that column

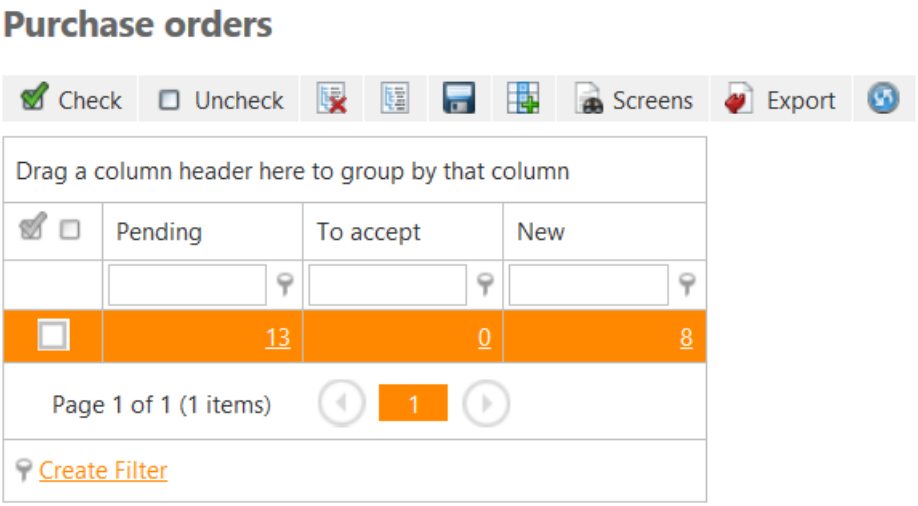
Equipment number	Equipment name	Number preventive alarm
B-L1-COM5	COMPRESSOR 05	1
		Sum=1

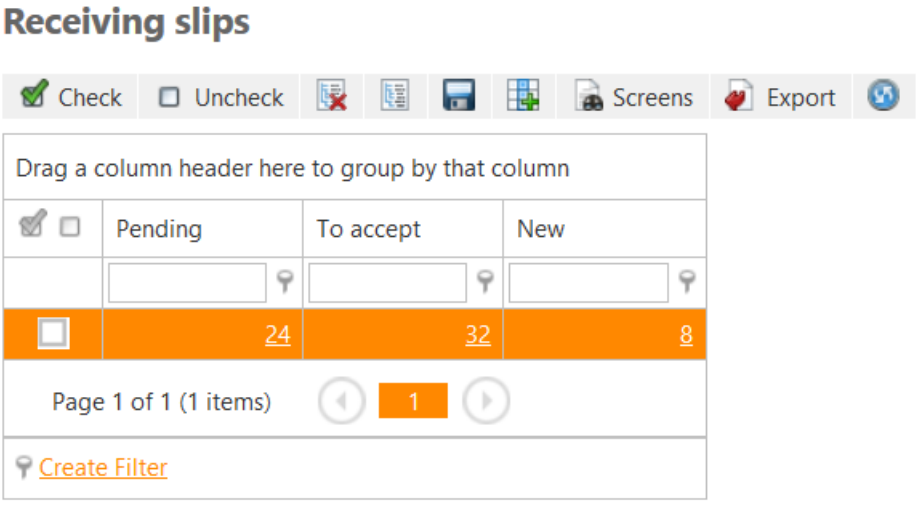
Page 1 of 1 (1 items) 1

Create Filter

Purchasing summary

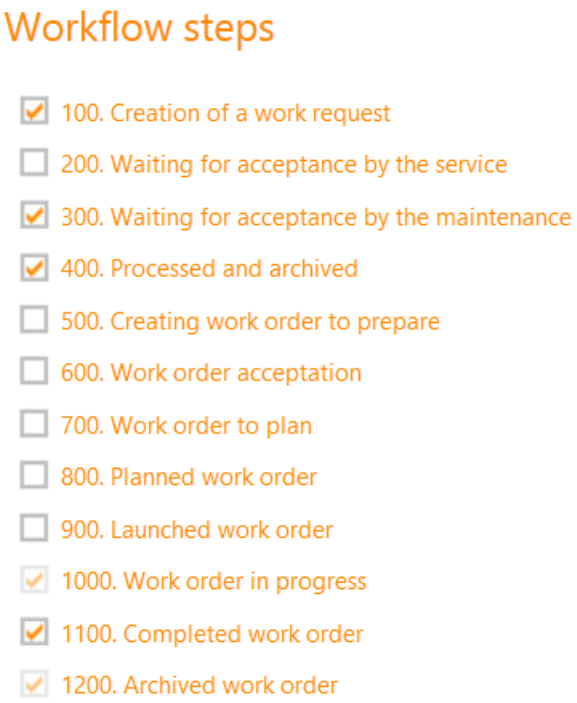
Along the same line as the previous summary screen, the purchasing summary lists the orders and groups them according to their status. Clicking on one of the values in these tables will open the orders screen or the deliveries screen, using the filters associated with the alert.





CHAPTER 7 / Work Order workflows

This screen lets you manage the flow of Work Requests and Work Orders in the AQ Manager Full Web application. It allows you to customize the steps through which the WR and WO must go in order to be validated.

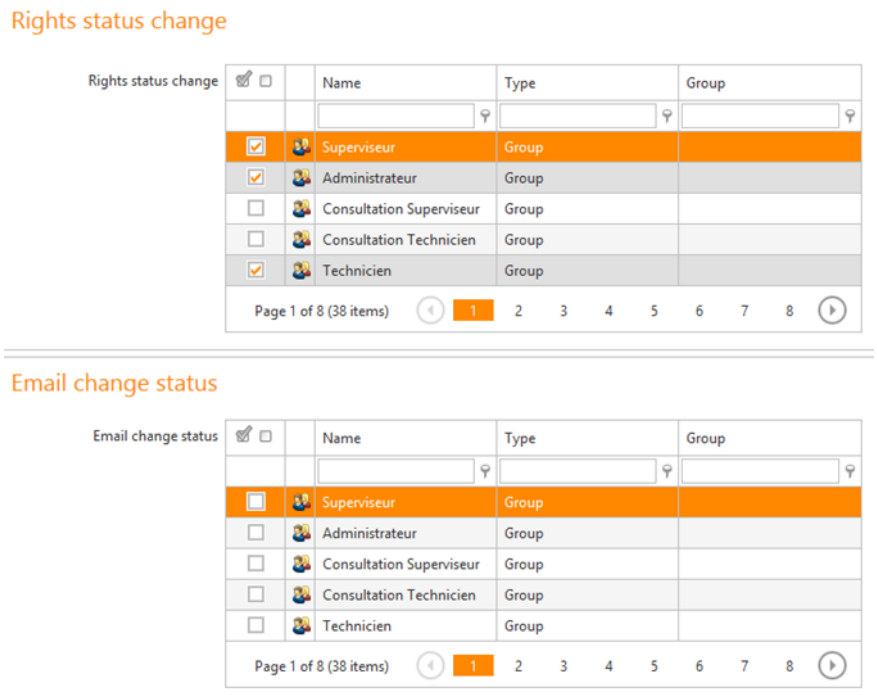


These workflows can be customized with respect to the motives for the maintenance and the users or they can be defined in a general manner at the site level.

Some steps are obligatory or cannot be separated from each other. For example, “1000. Work order in progress” and step “1200. Archived work order” are essential to inputting the maintenance operations.

At each step you can define the related rights and actions. It is therefore possible to manage e-mail alerts for certain users or user profilies. This is also where rights to change status at each step.

As some steps are obligatory as soon as another is activated, you can make them automatic. Therefore, the maintenance department has to approve Work Requests if you want to manage the creation of WR. On the other hand, the “auto-acceptance” checkbox allows you to automatically complete this step with no further need for user approval. However, if this step is not automated, you can still manage approval rights and e-mail alerts. You can also manage the approval deadlines and delay alerts.



Agreement request

Auto acceptance ☐

Agreement request

		Name	Type	Group
Clear			syst	
☐		Requester	System user	
☐		Maintenance manager (motive)	System user	
☐		Maintenance manager (site)	System user	
☐		Team manager	System user	
☐		Service manager	System user	

Page 1 of 3 (15 items) 1 2 3

Acceptance number 1

Mail if agreement

		Name	Type	Group
☐		Superviseur	Group	
☐		Administrateur	Group	
☐		Consultation Superviseur	Group	
☐		Consultation Technicien	Group	
☐		Technicien	Group	

Page 1 of 8 (38 items) 1 2 3 4 5 6 7 8

Mail if no agreement

		Name	Type	Group
☐		Superviseur	Group	
☐		Administrateur	Group	
☐		Consultation Superviseur	Group	
☐		Consultation Technicien	Group	
☐		Technicien	Group	

Page 1 of 8 (38 items) 1 2 3 4 5 6 7 8

Email change status

Email change status

		Name	Type	Group
☐		Superviseur	Group	
☐		Administrateur	Group	
☐		Consultation Superviseur	Group	
☐		Consultation Technicien	Group	
☐		Technicien	Group	

Page 1 of 8 (38 items) 1 2 3 4 5 6 7 8

Generic users in the Workflows

When configuring Workflows, there are a number of generic users that can be associated to the different approval steps. They can be displayed by clicking on  .

Maintenance manager (site)	Corresponds to the maintenance manager defined in the site screen. Access: Settings Menu -> Sites -> Maintenance manager
Maintenance manager (motive)	Corresponds to the technician defined in the motives for the work order. Access: Tables Menu -> Motive for work ->Maintenance Technician
Operations manager (Equipment)	Corresponds to the operations manager defined on the equipment sheet. Access: WO Menu -> Equipment -> Operations Manager.
Safety manager (Equipment)	Corresponds to the security manager defined on the equipment sheet. Access: WO Menu -> Equipment -> Safety Manager.
Team manager	Corresponds to the manager of the requester's team. Access: Tables Menu -> Staff-> Teams -> Leader.
Service manager	Corresponds to the person in charge of the service in which the requester works. Access: Tables Menu -> Staff -> Departments -> Head.
Requester	Corresponds to the user who created the record. Access: Settings Menu -> Users.

PART 5: LIMS

The LIMS option lets you manage quality control for the articles.
Setting up the LIMS has several steps:

1. Inputting the basic data needed for testing (analysis ranges, methods, models, analyses, frequencies…)
2. Relating articles to ranges.
3. Test requests and incident sheets

CHAPTER 1 / Basic data

Analyses rights models

Analyses rights models are used in association with the models and methods of analyses to configure approvals when creating, modifying, and deleting test requests and when entering and modifying results.

Rights are defined either for a group or for a user.

Number	Sets the number for the right
Name	Sets the name of the right

Groups or users tab

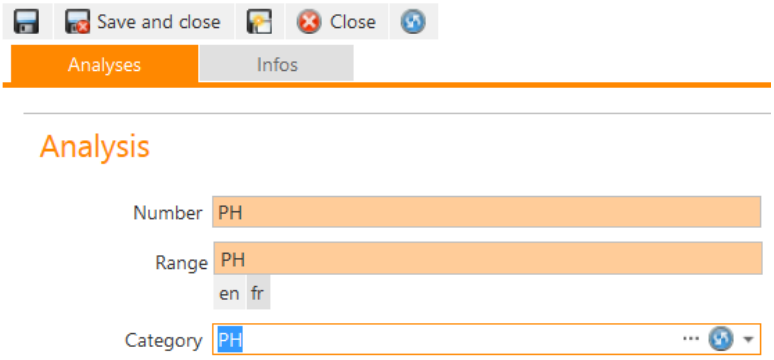
Group	Choose the group for which the rights will be applicable
Users	Choose the users for which the rights will be applicable
Order	Order in which the rights are displayed on the screen

Permissions:

"Element", as used in the table below, refers either to an analysis, a model or a method, in function of the context in which the right is used

Accessible	Checked: the element is displayed and the other rights below can be applied. Unchecked: the element is not displayed and the other rights are not applicable.
Add	Checked: the element can be added to a test request.
Modify	Checked: the element can be modified in a test request (e.g. definition of specifications)
Delete	Checked: the element can be deleted from a test request.
Enter result	Checked: the element can be entered in a test request when no results have been entered.
Modify data	Checked: the element entered in a test request can be modified.
Hide read-only test conditions	Checked: if the element is a test condition and the "accessible" right is checked, then "add" is unchecked, "modify" is unchecked, "delete" is unchecked, and the element will be hidden.

Analyses



The analyses screen lists the possible analyses. You do not have to complete this table; it is only an aid in the creation of analysis models if you have several models available for any given analysis.

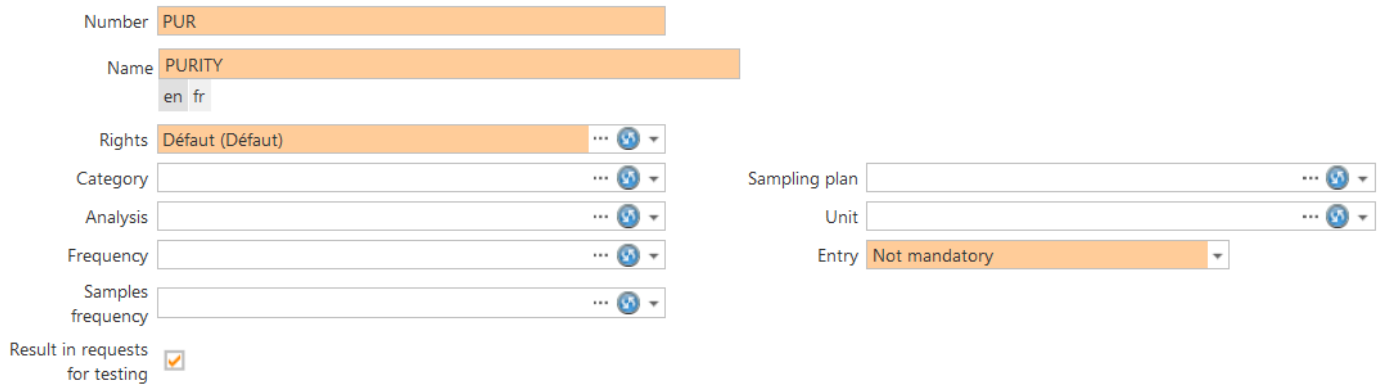
Input the analysis name and number. “Category” lets you classify the analyses by group.

Info tab

The info tab lets you add open text fields to the analyses. This tab displays customizable fields in which complementary information can be added.

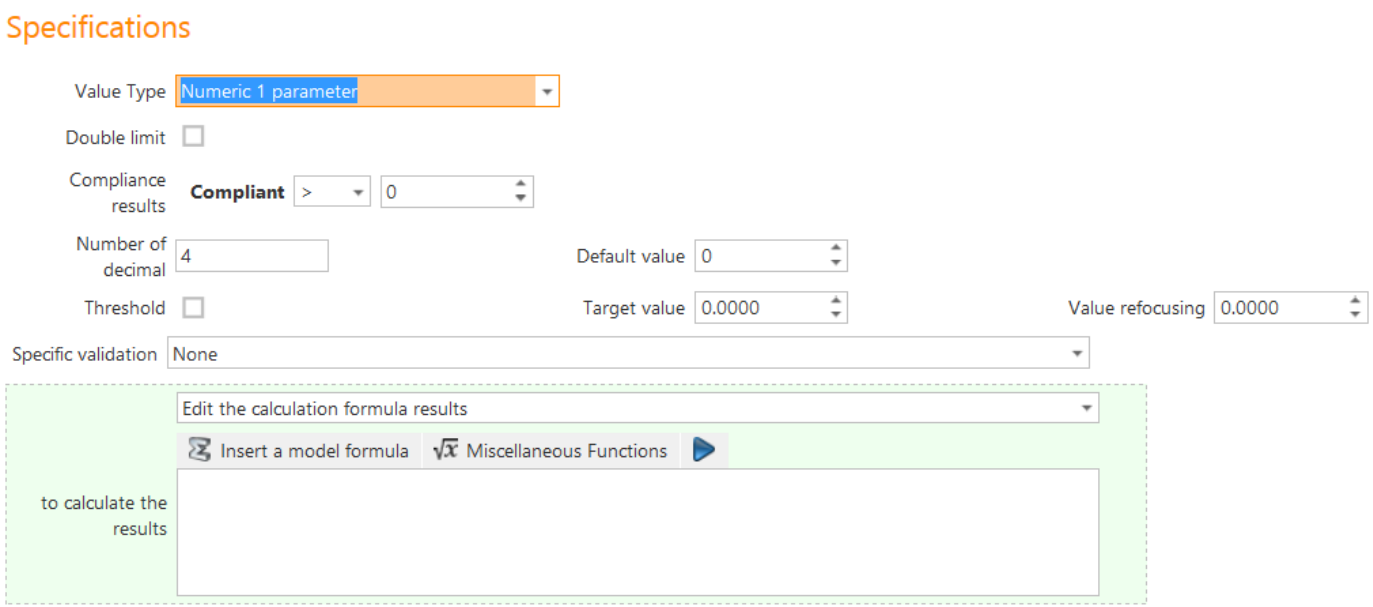
Analyses models

The “Analyses models” screen lists the analyses and their specifications. You can have the same model more than once with different specifications.



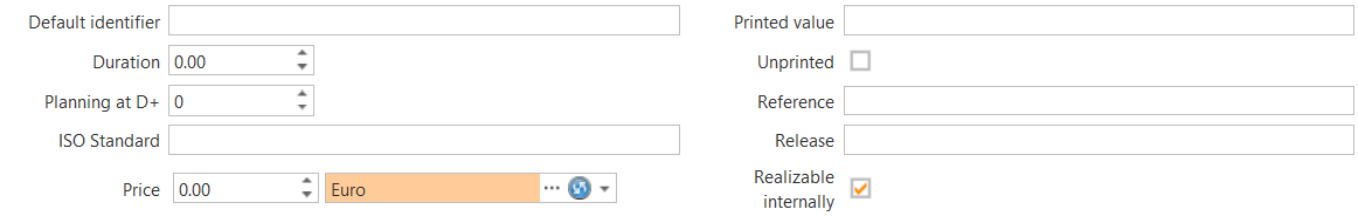
Number	Model number. Must be unique.
Name	Model name. It is recommended to add complementary identification to the name in order to be able to easily distinguish between models when choosing from a dropdown list.
Rights	Creation, edition, visibility and other rights.
Category	The category lets you create groups of models
Sampling plan	The sample plan defines the number and type of samples required for the analysis. In general the sample plan is defined in the range or the method.
Analysis	You can create a link to a specific analysis if needed.

Unit	Unit in which the results are expressed
Frequency	Frequency determines when the analysis will be added to the method for a specific range. You can define this later when associating models with methods.
Entry	“Entry” defines how the results will influence the product release. If not mandatory, there will be no impact on the release; if mandatory the results must be entered and participate in the final product evaluation.
Test request specifications	The test specifications is a specific analysis whose result is included in the creation of a test request. As its name indicates, it allows the user to define a specification, under which the test is made, for example the temperature to use.



Value type	The type of value used determines the value of the result. It can be a number or text or a date. If the type of value is preceded by “none” this means that you do not want to attribute any norms to the results. This will still be considered acceptable as long as you enter a result. If the type of value contains the expression “1 or 2 parameters”, this means the norm will have either 1 or 2 parameters, for example: > 10 or between 13 and 20.
Default value	If you specify a default value, it will allow you to automatically indicate the value for the method in the results sheet for the test request.
Number of decimals	The number of decimal places used to express the results
Double limit	By checking this box, you can introduce a double value to the norm, a targeted norm, and an alert norm.
Value	Indicates the data for the norm. For alphanumerical norms, you can input all possible values. These will be shown in a dropdown list when the results are entered. For numerical norms or dates, you can introduce comparators (<,>,<=,>=) and the value compared.
Threshold	By checking this you can specify that the apparatus you are using has a measurement threshold and define the target norm
Formula results	You can specify the formula to use to calculate the results. See the chapter on formulas.

Additional settings



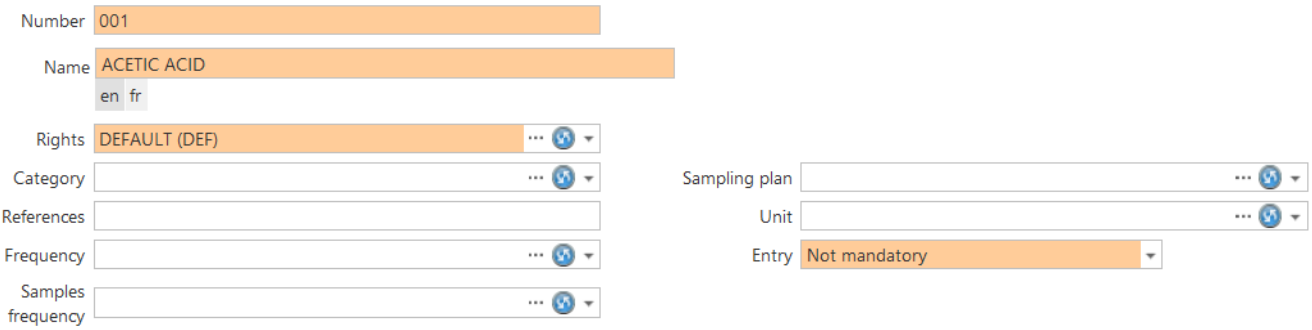
Default identifier	The identifier by default is a unique number that will be used to identify the method when making test requests. This is the identifier that is used to pool documents, and also for copies to define the copy number for the duplicated method.
Printed value	The value to print in the analysis report or on the compliance certificate. The measured value will not be printed and will be replaced by this one.
Duration	Duration
Unprinted	The result measured will not be printed in the analyses report or on the certificate of compliance.
Planning at D +	Input a value if the test lasts from more than one day.
Reference	To automatically import results from an Excel sheet, you have to input into this cell the reference to the Excel cell from which the result is to be. Ex : C7, Sheet!C7
ISO standard	The ISO Standard that may be applicable
Release	The release for the norm
Price	The cost price
Billable	(Invoicing option) Check the methods that will be invoiced
Realizable internally	Check if the test can be carried out by the company
Alternative numbers for import	(Option: Measurement device interface) This field lets you relate the analysis numbers on the measurement devices when the latter cannot be configured.

Info tab

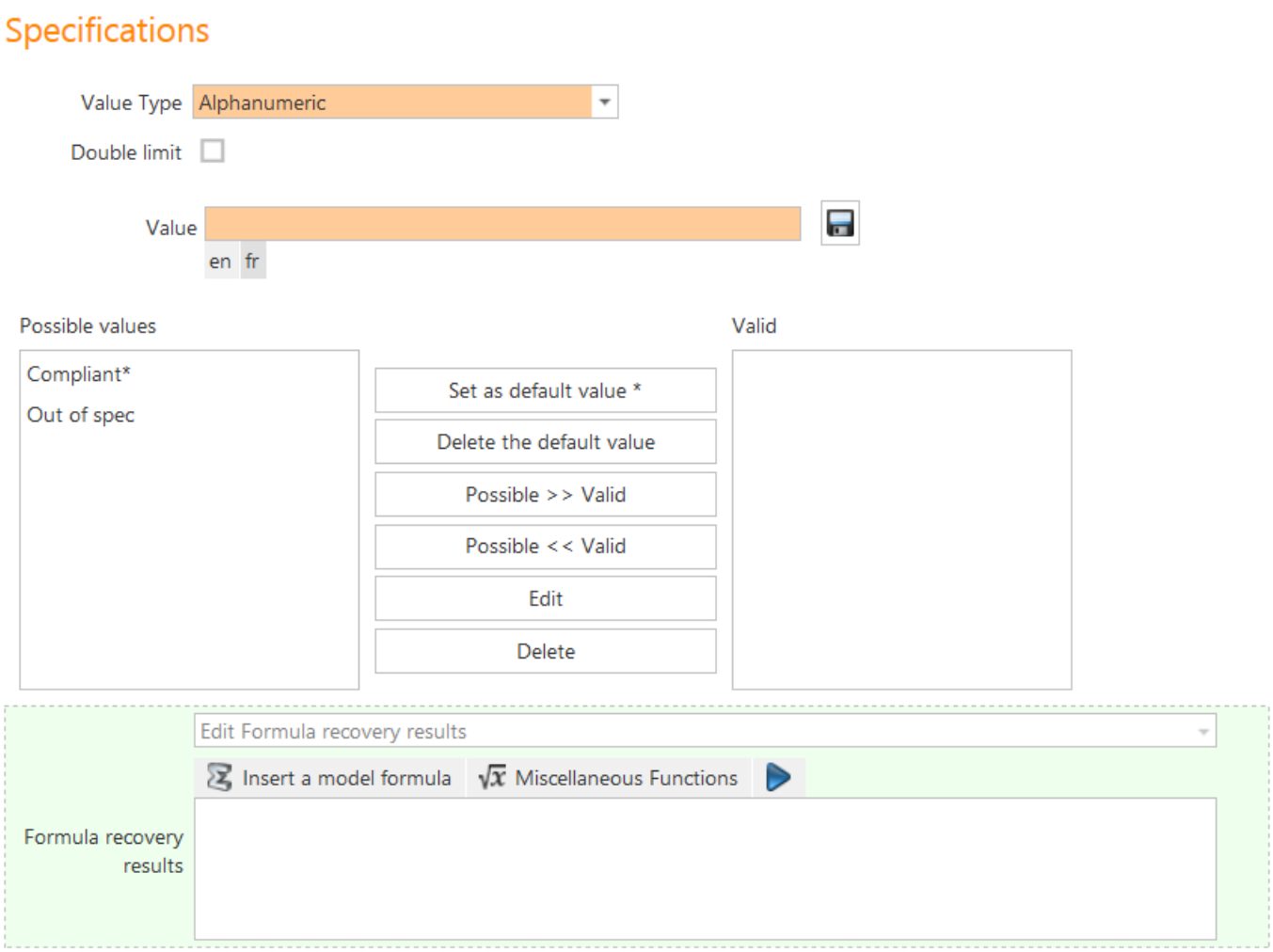
This tab displays customizable fields in which complementary information can be added.

Analyses methods

This screen lists the method and its specifications. The same method can appear several times with different specifications. The methods can have an unlimited number of models.
Here you can also specify the accreditation, equipment, and articles needed to carry out the analysis.

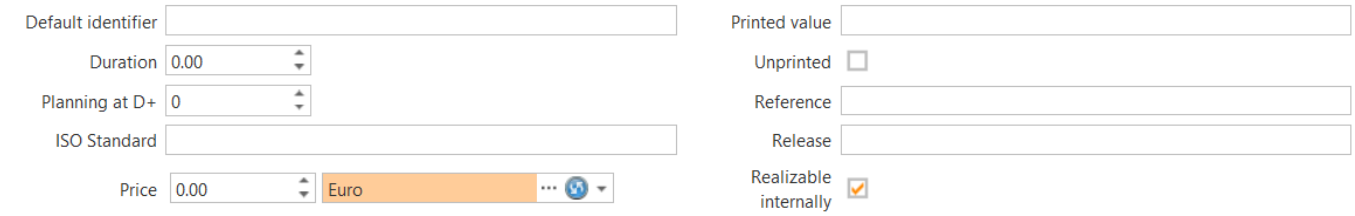


Number	Model number. Must be unique.
Name	Model name. It is recommended to add complementary identification to the name in order to be able to easily distinguish between models when choosing from a dropdown list.
Rights	Creation, edition, visibility and other rights.
Category	The category lets you create groups of models
Sampling plan	The sampling plan defines the number and type of samples required for the analysis. In general the sampling plan is defined in the range or the method.
Reference	To automatically import results from an Excel sheet, you have to input into this cell the reference to the Excel cell from which the result is to be. Ex : C7, Sheet!C7
Unit	Unit in which the results are expressed
Frequency	Frequency determines when the analysis will be added to the method for a specific range. You can define this later when associating models with methods in a range.
Entry	“Entry” defines how the results will influence the product release. If not mandatory, there will be no impact on the release; if mandatory the results must be entered and participate in the final product evaluation.



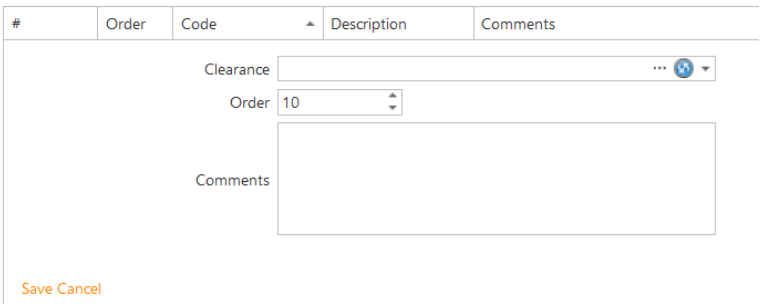
Value type	The type of value used determines the value of the result. It can be a number or text or a date. If the type of value is preceded by “none” this means that you do not want to attribute any norms to the results. This will still be considered acceptable as long as you enter a result. If the type of value contains the expression “1 or 2 parameters”, this means the norm will have either 1 or 2 parameters, for example: > 10 or between 13 and 20.
Default value	If you specify a default value, it will allow you to automatically indicate the value for the method in the results sheet for the test request.
Number of decimals	The number of decimal places used to express the results
Double limit	By checking this box, you can introduce a double value to the norm, a targeted norm, and an alert norm.
Value	Indicates the data for the norm. For alphanumerical norms, you can input all possible values. These will be shown in a dropdown list when the results are entered. For numerical norms or dates, you can introduce comparators (<,>,<=,>=) and the value compared.
Threshold	By checking this you can specify that the apparatus you are using has a measurement threshold and define the target norm
Formula results	You can specify the formula to use to calculate the results. See the chapter on formulas.

Additional settings



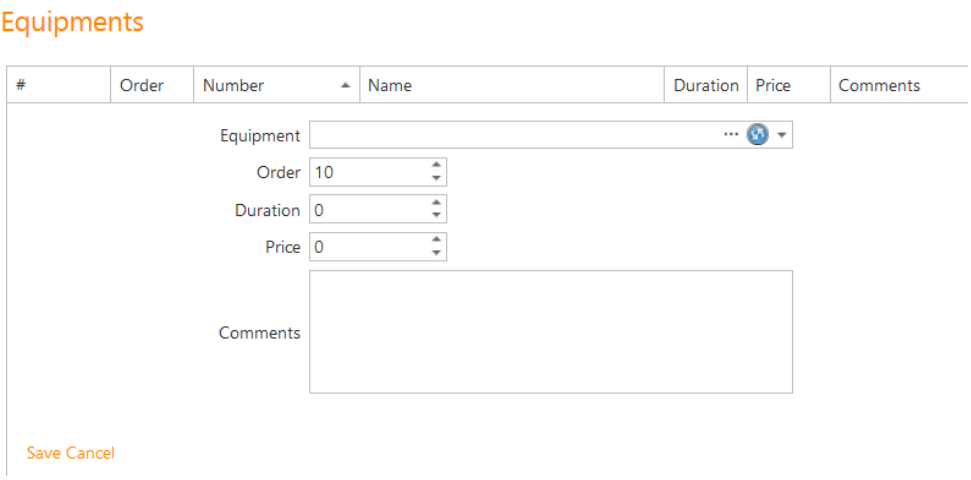
Default identifier	The identifier by default is a unique number that will be used to identify the method when making test requests. This is the identifier that is used to pool documents, and also for copies to define the copy number for the duplicated method.
Printed value	The value to print in the analysis report or on the compliance certificate. The measured value will not be printed and will be replaced by this one.
Duration	Duration
Unprinted	The result measured will not be printed in the analyses report or on the certificate of compliance.
Planning at D +	Input a value if the test lasts from more than one day.
Reference	To automatically import results from an Excel sheet, you have to input into this cell the reference to the Excel cell from which the result is to be. Ex : C7, Sheet!C7
ISO standard	The ISO Standard that may be applicable
Release	The release for the norm
Price	The cost price
Billable	(Invoicing option) Check the methods that will be invoiced
Realizable internally	Check if the test can be carried out by the company
Alternative numbers for import	(Option: Measurement device interface) This field lets you relate the analysis numbers on the measurement devices when the latter cannot be configured.

Clearances



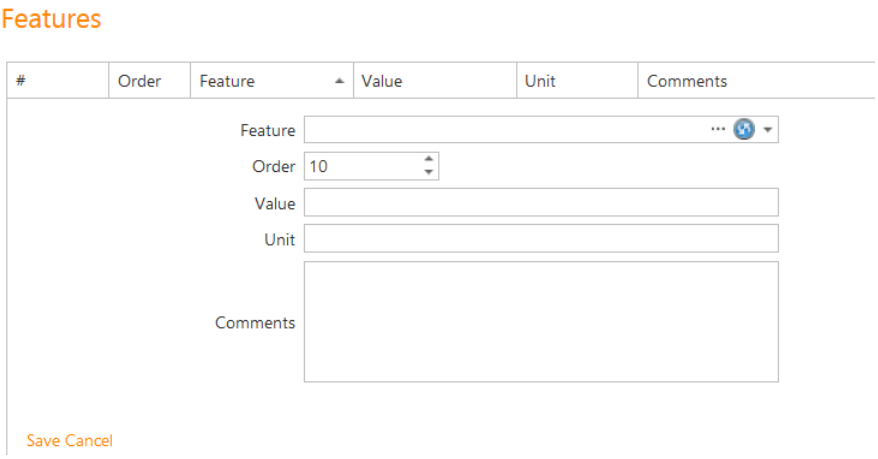
The clearances screen lets the user define the clearances required for the staff to perform the method.

Clearance	Clearance
Order	The order these are shown on the screen
Comments	Comments (if necessary)



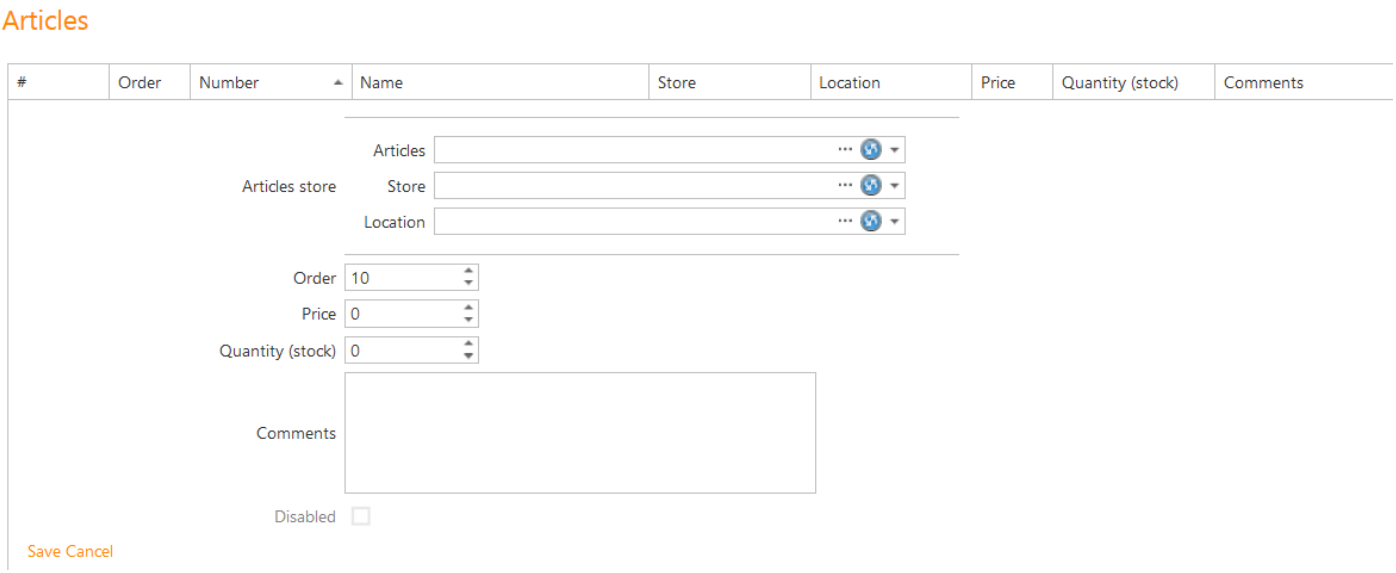
The equipment needed to perform the method can be defined in this screen. It is used to schedule the methods.

Equipment	Equipment
Order	The order shown on the screen
Duration	Duration of use of the method on the equipment (used for scheduling)
Price	The cost price of the use of the equipment
Comments	Comments (if necessary)



The features screen displays complementary information describing the methods.

Feature	Feature
Order	The order shown on the screen
Value	The value used for the feature
Unit	The unit the feature is expressed in
Comments	Comments (if necessary)



The articles (reagents, consumables…) needed to carry out the method can be defined in this screen. They will be used to reserve the articles in the stores.

Article	Name and number of the article
Store	The store in which the reservation is to be made
Location	The area where the articles are kept in the store
Order	The order in which the articles are shown on the screen
Price	The cost price of the article
Quantity (stock)	The amount needed for the method to be expressed per storage unit
Comments	Comments (if necessary)

Info tab

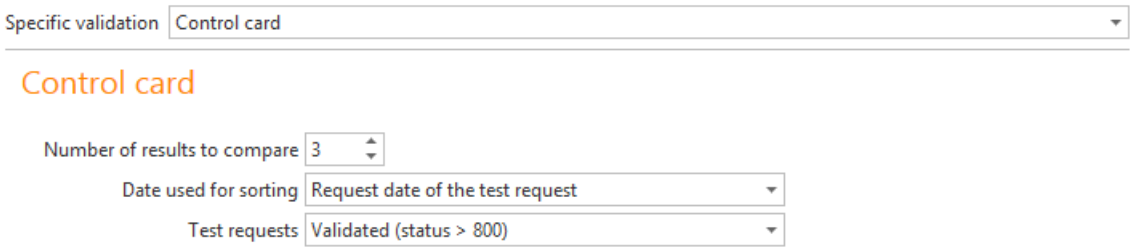
This tab displays customizable fields in which complementary information can be added.

Analyses models

You can add one or many analyses models to the methods. The description of the fields has been presented above (see “Analyses models”).

The following complementary fields are available.

Number	The number will be used in test requests to identify the model. This identifier will be used to pool documents. It must be unique for the range model.
Inheritance	If you select inheritance the model will be read-only and will use the settings for the model defined for analyses. Inheritance is interesting as it allows automatic waterfall updating of the models.



For a model or method of analysis that has a type 1 or 2 setting, you now have an extra dropdown list: “Specific validation”. By default, this offers you the choice between “None” and “Control card”.

The control card uses a validation algorithm that carries out the following verifications on results which are supposedly compliant (with or without alert) and will indicate their noncompliance if any of them fails:

1. The last N results to date are compliant with alert or noncompliant
2. The last N results have values that increase over time (rising tendency to drift)
3. The last N results have values that decrease over time (falling tendency to drift)

When you choose “Control card” you have the choice of 3 settings:
Number of results to compare: in order to set the value N mentioned above.
Date used for sorting. The search for the N last results should be based on one of the following dates:

- Request date of the test request
- Creation date of the sample
- Date of last modified result

Test requests: Which test requests must be considered when searching for the N last results?

- Validated (status > 800)
- To validate (status <= 800)
- All

It is important to specify that the results awaiting validation from the algorithm will still be taken into account no matter what the settings mentioned above.

*Through specific customized development, other validation algorithms can be implemented. Please contact us for further details if you need specific assistance.

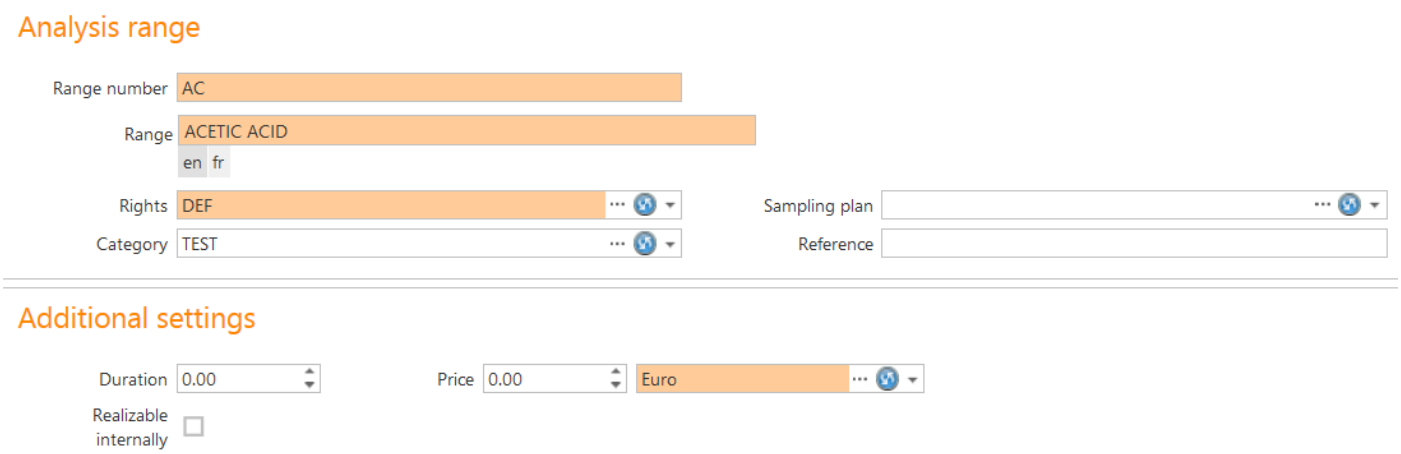
In order to better understand the how the results are evaluated, the “Analyses results (search)” screen includes the following columns
Specific validation (name of the algorithm used; empty if there is none)
Non-compliant with respect to specific validation criteria (true/false). True if the result in non-compliant and if this non-compliance is shown by the specific validation criteria used by the algorithm.

Analysis ranges

The different analyses ranges include the list of ranges and their specification. The same range can have different specifications. The range can contain an unlimited number of methods that have an unlimited number of models.

The ranges are then associated with articles to automatically define the association when a sample is delivered.

You can duplicate a range with link. In this case, a horizontal inheritance will be established between the ranges. If there is a change in the master range, the associated ranges will automatically be updated. These associations are used to manage special specifications for a customer or supplier.



Range number	Range number
Range	Name of the range
Rights	Creation, edition, visibility and other rights.
Sampling plan	The sampling plan defines the number and type of samples required for the range.
Category	The category lets you create range groups
Reference	Range reference.
Duration	Time required
Price	Cost price
Realizable internally	Check if the test can be done by the company.

Analyses methods

You can add methods of analyses to the ranges. The description of the fields has been presented above (see “Analysis methods”).
The following complementary fields are available:

Number	The number will be used in test requests to identify the method. This identifier will be used to pool documents. It must be unique for each range method.
Inheritance	If you select inheritance the method will be read-only and will use the settings for the method defined for analysis methods. Inheritance is interesting as it allows automatic waterfall updating of the models.

Analyses models

You can add analyses models to the methods. The description of the fields has been presented above (see “analyses models”)
The following complementary fields are available:

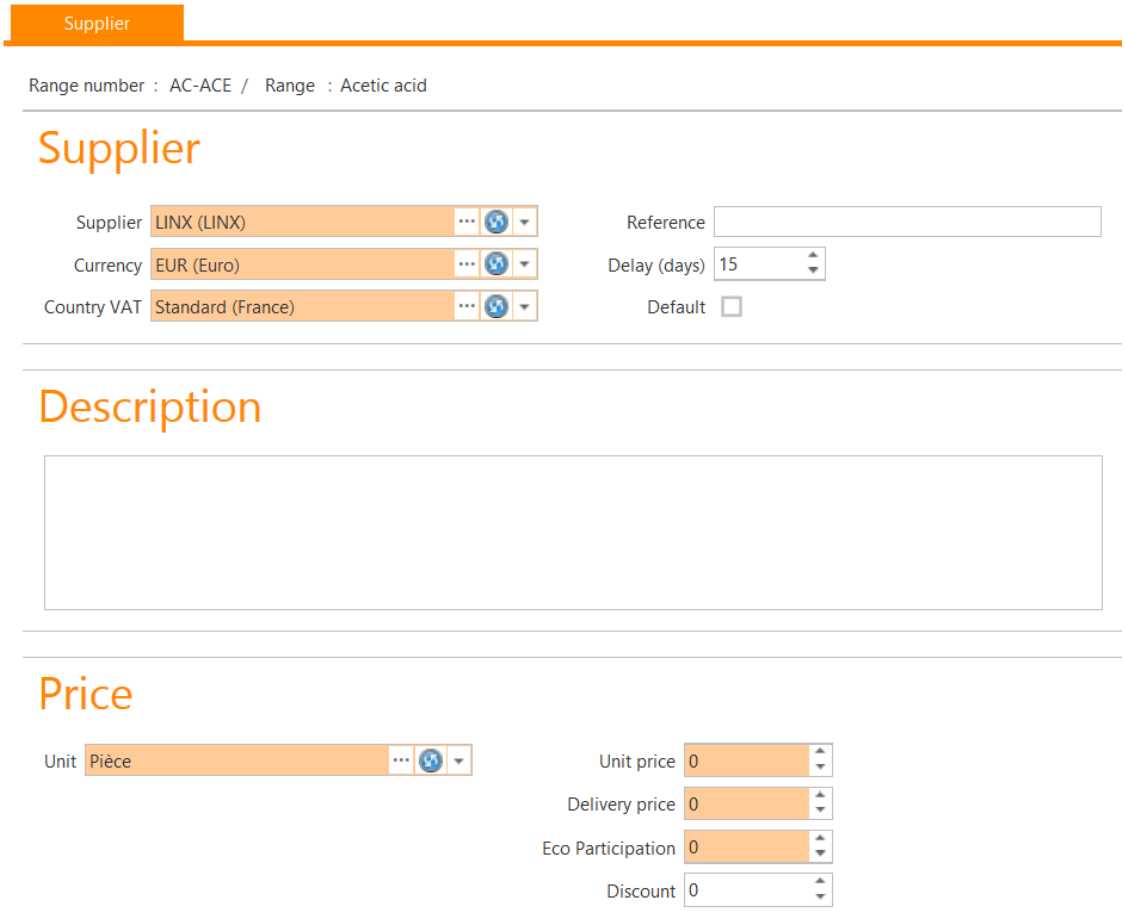
Number	The number will be used in test requests to identify the model. This identifier will be used to pool documents. It must be unique for the range model.
Inheritance	If you select inheritance the model will be read-only and will use the settings for the model defined for model analyses. Inheritance is interesting as it allows automatic waterfall updating of the models.

Info tab

This tab displays customizable fields in which complementary information can be added.

Supplier price list

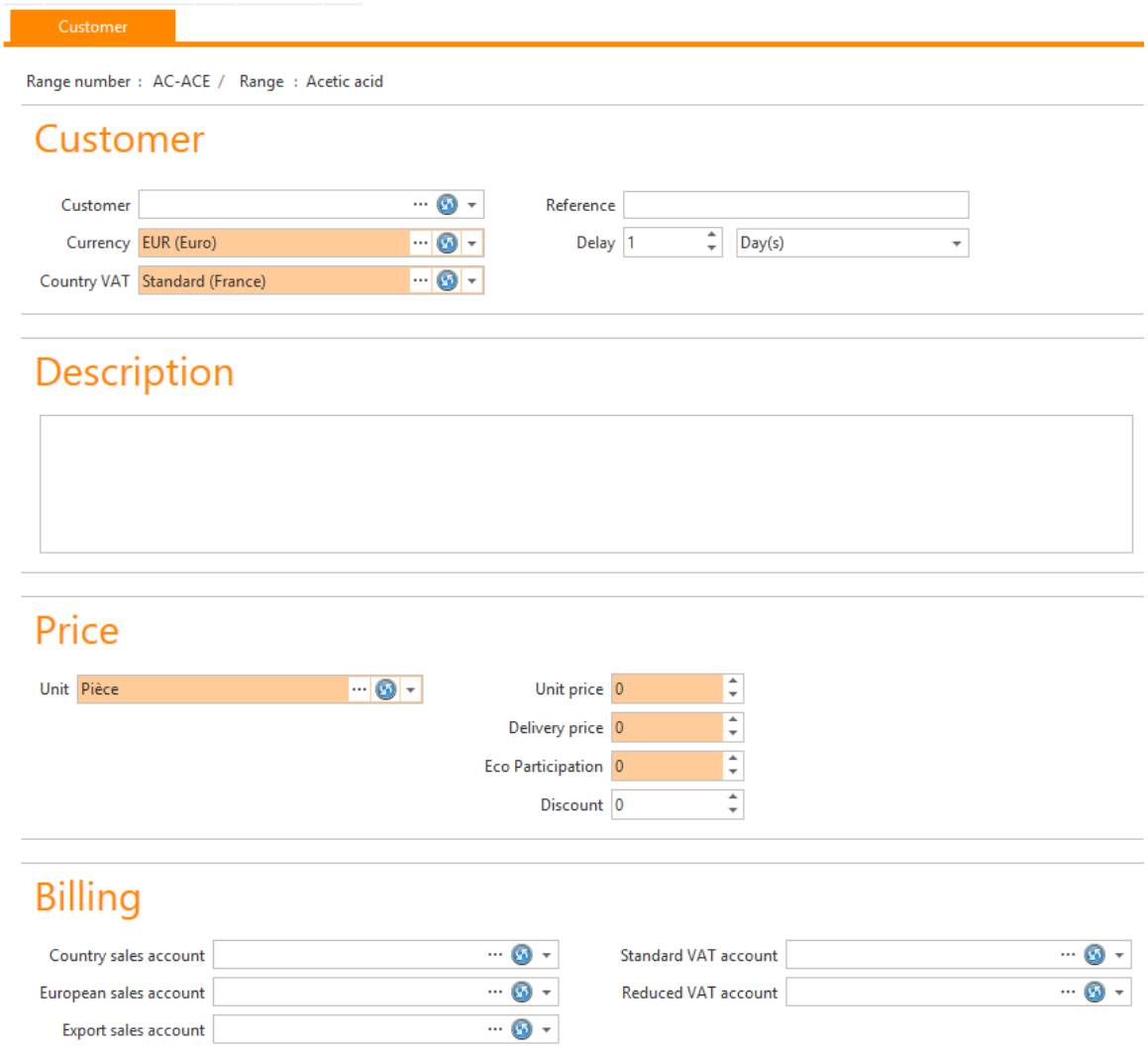
The supplier price allows you to input the suppliers with whom you can subcontract for the analysis, the model, the method or the range.



Supplier	Choose a supplier name
Reference	The supplier's reference number
Currency	The currency used in the price
Deadline	The completion date
Country VAT	The applicable VAT rate
Default	Check if this is the default price. You can include several prices
Description	Price description
Unit	The unit in which the price is expressed
Unit price	Price per unit
Delivery price	Price on delivery
Eco participation	Supplement to offset CO2 impact
Discount	Discount

Customer price list

The customer price (Customer option) lets you reference the sales prices invoiced to the customer for models, methods or



ranges.

Customer	Choose a customer name
Reference	The customer reference number
Currency	The currency used in the price
Deadline	The completion date
Country VAT	The applicable VAT rate
Description	Price description
Unit	The unit in which the price is expressed
Unit price	Price per unit
Delivery price	Price on delivery

Eco participation	Supplement to offset CO2 impact
Discount	Discount
Invoicing	You must fill in the following fields to be able to export the customer invoices to Accounts
Country sales account	The accounting sales number
Standard VAT account	The reference number used in the standard VAT account
European sales account	The accounting sales number for the EEC
Reduced VAT account	The reference number used in the reduced VAT account (if applicable)
Export sales account	The accounting sales number for Export

Formulas used to calculate the results

Structure of the formulas

Formulas always follow this specific format:

[$FormulaName(parameter 1, parameter 2, ..., parameter n)$]

[$	A formula begins with an opening bracket followed by a dollar sign [$. Be sure not to put a space between the bracket and the dollar sign.
FormulaName	Formula name
(parameter 1, parameter 2, ..., parameter n)	The parentheses surround a list of settings separated by a comma. The setting names are indications and must not be used in the actual formula. If the setting offers a list of choices, these will be presented between brackets and separated by a vertical bar, for example: [validated|tobevalidated|all]. You must only leave one choice, with no brackets or vertical bars. The settings must be separated by a comma. Decimals must be shown with a point.
$]	A formula ends with a dollar sign followed by a closing bracket $]. Be sure not to put a space between the dollar sign and the bracket.

Special settings

String	String means that the setting is awaiting text input	
UInt64	UInt64 means the setting is awaiting an integer	
depth [firstgen|alldescendents]	depth : defines the extent of the search	
	firstgen	First level of traceability
	alldescendents	All traceability
sortCriteria [testrequest|sample|result]	sortCriteria : defines the criteria that will be applied in traceability before the results are recognized	
	testrequest	The results will be sorted according to test request date
	sample	The results will be sorted according to sample creation date

	result	The results will be sorted according to the date of the last results update
testRequestStatus [validated|tobevalidated|all|samesample|same testrequest]	testRequestStatus : defines the test requests selected to display the result	
	validated	The results will be searched from among the validated test requests
	tobevalidated	The results will be searched from among the test requests that have not been validated
	all	The results will be searched from among the validated and non-validated
	samesample	The results will be searched in the current sample
	sametestrequest	The results will be searched in the current test request
groupFunction [count|min|max|avg|sum]	groupFunction : defines how the results obtained will be handled	
	count	The results will be counted and the number of results will be returned
	min	The minimum result will be returned
	max	The maximum result will be returned
	avg	The average result will be returned
	sum	The sum of the results will be returned

Important

When a formula does not get a result, it returns the default value defined for the method or model used.

If you do your calculations with decimal points you can use the point as a decimal separator. For example: [$LastResultsByAnalysis(CG-01, 1, testrequest, all, min)$]*1.52/0.1*8/50/100

Last results in traceability by analysis number

Description

Returns the results found in the traceability data for the components of the article concerned by the current test request, for a given method or model number, without taking into account the range or the article.

Syntax

[$LastResultsInTraceabilityByAnalysis(analysesTrunkNumber [String|?], depth [firstgen|alldescendents], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsInTraceabilityByAnalysis(?, alldescendents, 1, testrequest, validated, max)$]

Returns the last result for the current model or method by searching in all the traceability data for validated test requests and for the article components.

Settings

<table>
<tr><td>analysesTrunkNumber [String|?]</td><td>analysesTrunkNumber: defines the method or model number to use when searching the traceability data.<table><tr><td>String</td><td>You can specify a particular model or method number.</td></tr><tr><td>?</td><td>A question mark stands for the current model or method number</td></tr></table></td></tr>
<tr><td>depth</td><td>depth : defines the extent of the search (see possible values below)</td></tr>
<tr><td>count [UInt64]</td><td>count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction</td></tr>
<tr><td>sortCriteria</td><td>sortCriteria: defines the sort criteria that will be applied to the traceability results before recognizing the analyses results. (see possible values below))</td></tr>
<tr><td>testRequestStatus</td><td>testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)</td></tr>
<tr><td>groupFunction</td><td>groupFunction: defines how the results obtained will be processed (see possible values below)</td></tr>
</table>

Last results in traceability by analysis number for a given range

Description

Returns the results found in the traceability data for the components of the article concerned by the current test request, for a given method or model number in a given range, without taking into account or the article.

Syntax

[$LastResultsInTraceabilityByAnalysisRange(analysesTrunkNumber [String|?], rangeNumber [String|?], depth [firstgen|alldescendents], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsInTraceabilityByAnalysisRange(chrome, Chromate, firstgen, 3, result, all, avg)$]

Returns the average of the 3 last results entered in the test requests (validated or not) at the first level of traceability for the chrome method in the Chromate range.

Settings

<table>
<tr><td>analysesTrunkNumber [String|?]</td><td>analysesTrunkNumber: defines the method or model to use when searching the traceability data.<table><tr><td>String</td><td>You can specify a particular model or method number.</td></tr><tr><td>?</td><td>A question mark stands for the current model or method number</td></tr></table></td></tr>
<tr><td>rangeNumber [String|?]</td><td>rangeNumber : defines the range number to use when searching the traceability data<table><tr><td>String</td><td>You can specify a particular range number.</td></tr><tr><td>?</td><td>A question mark stands for the current range number</td></tr></table></td></tr>
<tr><td>depth</td><td>depth : defines the extent of the search (see possible values below)</td></tr>
<tr><td>count [UInt64]</td><td>count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction</td></tr>
<tr><td>sortCriteria</td><td>sortCriteria: defines the sort criteria that will be applied to the traceability results before recognizing the analysis results. (see possible values below))</td></tr>
<tr><td>testRequestStatus</td><td>testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)</td></tr>
<tr><td>groupFunction</td><td>groupFunction: defines how the results obtained will be processed (see possible values below)</td></tr>
</table>

Last results in traceability by analysis number for a couple article/range

Description

Returns the results found in the traceability data for the components of the article concerned by the current test request, for a given method or model number for a given range and a given article.

Syntax

[$LastResultsInTraceabilityByAnalysisSpareRange(analysesTrunkNumber [String|?], spareNumber [String|?], rangeNumber [String|?], depth [firstgen|alldescendents], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsInTraceabilityByAnalysisSpareRange(chrome, Potassium chromate, Chromate, firstgen, 3, result, all, avg)$]

Returns the average of the 3 last results entered in the test requests (validated or not) at the first level of traceability for the chrome method in the Chromate range and for the article (in this example, Potassium Chromate.)

Settings

<table>
<tr><td>analysesTrunkNumber [String|?]</td><td>analysesTrunkNumber: defines the method or model number to use when searching the traceability data.<table><tr><td>String</td><td>You can specify a particular model or method number.</td></tr><tr><td>?</td><td>A question mark stands for the current model or method number</td></tr></table></td></tr>
<tr><td>spareNumber [String|?]</td><td>spareNumber : defines the article number to search for in the traceability data<table><tr><td>String</td><td>You can specify a particular article number</td></tr><tr><td>?</td><td>A question mark stands for the current article number</td></tr></table></td></tr>
<tr><td>rangeNumber [String|?]</td><td>rangeNumber : defines the range number to use when searching the traceability data<table><tr><td>String</td><td>You can specify a particular range number.</td></tr><tr><td>?</td><td>A question mark stands for the current range number</td></tr></table></td></tr>
<tr><td>depth</td><td>depth : defines the extent of the search (see possible values below)</td></tr>
<tr><td>count [UInt64]</td><td>count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction</td></tr>
<tr><td>sortCriteria</td><td>sortCriteria: defines the sort criteria that will be applied to the traceability results before recognizing the analysis results. (see possible values below))</td></tr>
<tr><td>testRequestStatus</td><td>testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)</td></tr>
<tr><td>groupFunction</td><td>groupFunction: defines how the results obtained will be processed (see possible values below)</td></tr>
</table>

Last results by analysis number

Description

Returns the results found for the test request articles, for a given method or model number, without taking into account the range or the article.

Syntax

[$LastResultsByAnalysis(analysesTrunkNumber [String|?], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsByAnalysis(?, 1, testrequest, validated, max)$]

Returns the last result for the current model or method by searching in all the traceability data for validated test requests.

Settings

analysesTrunkNumber [String|?]	analysesTrunkNumber: defines the method or model number to search for.	
	String	You can specify a particular model or method number.
	?	A question mark stands for the current model or method number
count [UInt64]	Count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction	
sortCriteria	sortCriteria: defines the sort criteria that will be applied before recognizing the analysis results. (see possible values below))	
testRequestStatus	testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)	
groupFunction	groupFunction: defines how the results obtained will be processed (see possible values below)	

Last results by analysis number for a couple article/range

Description

Returns the results found for articles listed in test requests, for a given method or model number, in a given range and a given article.

Syntax

[$LastResultsByAnalysisSpareRange(analysesTrunkNumber [String|?], spareNumber [String|?], rangeNumber [String|?], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsByAnalysisSpareRange(chrome, Potassium chromate, Chromate, 3, result, all, avg)$]

Returns the average of the 3 last results entered in the test requests (validated or not) for the chrome method in the Chromate range and for the article (in this example, Potassium chromate.)

Settings

<table>
<tr><td>analysesTrunkNumber [String|?]</td><td>analysesTrunkNumber: defines the method or model number to search for.<table><tr><td>String</td><td>You can specify a particular model or method number.</td></tr><tr><td>?</td><td>A question mark stands for the current model or method number</td></tr></table></td></tr>
<tr><td>spareNumber [String|?]</td><td>spareNumber : defines the article number to search for<table><tr><td>String</td><td>You can specify a particular article number</td></tr><tr><td>?</td><td>A question mark stands for the current article number</td></tr></table></td></tr>
<tr><td>rangeNumber [String|?]</td><td>rangeNumber : defines the range number search for<table><tr><td>String</td><td>You can specify a particular range number.</td></tr><tr><td>?</td><td>A question mark stands for the current range number</td></tr></table></td></tr>
<tr><td>count [UInt64]</td><td>Count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction</td></tr>
<tr><td>sortCriteria</td><td>sortCriteria: defines the sort criteria that will be applied using the analysis results. (see possible values below))</td></tr>
<tr><td>testRequestStatus</td><td>testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)</td></tr>
<tr><td>groupFunction</td><td>groupFunction: defines how the results obtained will be processed (see possible values below)</td></tr>
</table>

Last results by analysis number for an article family/range pair

Description

Returns the results found for articles listed in test requests, for a given method or model number, in a given range and a given family of articles.

Syntax

[$LastResultsByAnalysisSpareFamilyRange(analysesTrunkNumber [String|?], spareFamilyNumber [String|?], rangeNumber [String|?], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsByAnalysisSpareFamilyRange(chrome, Chromate, Chromate, 3, result, all, avg)$]

Returns the average of the 3 last results entered in the test requests (validated or not) for the chrome method in the Chromate range and for the Chromate family of articles.

Settings

analysesTrunkNumber [String|?]	analysesTrunkNumber: defines the method or model number to search for. String: You can specify a particular model or method number. ?: A question mark stands for the current model or method number
spareFamilyNumber [String|?]	spareFamilyNumber : defines the article family number to search for String: You can specify a particular family number ?: A question mark stands for the current article number
rangeNumber [String|?]	rangeNumber : defines the range number to search for String: You can specify a particular range number. ?: A question mark stands for the current range number
count [UInt64]	Count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction
sortCriteria	sortCriteria: defines the sort criteria that will be applied before recognizing the analysis results. (see possible values below))
testRequestStatus	testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)
groupFunction	groupFunction: defines how the results obtained will be processed (see possible values below)

Last results by analysis number for a couple article subfamily/range

Description

Returns the results found for articles listed in test requests, for a given method or model number, in a given range and a given subfamily of articles.

Syntax

[$LastResultsByAnalysisSpareSubFamilyRange(analysesTrunkNumber [String|?], spareSubFamilyNumber [String|?], rangeNumber [String|?], count [UInt64], sortCriteria [testrequest|sample|result], testRequestStatus [validated|tobevalidated|all], groupFunction [count|min|max|avg|sum])$]

Example

[$LastResultsByAnalysisSpareSubFamilyRange(chrome, Potassium chromate, Chromate, 3, result, all, avg)$]

Returns the average of the 3 last results entered in the test requests (validated or not) for the chrome method in the Chromate range and for the article subfamily (in this example, Potassium chromate.)

Settings

<table>
<tr><td>analysesTrunkNumber [String|?]</td><td>analysesTrunkNumber: defines the method or model number to search for.<table><tr><td>String</td><td>You can specify a particular model or method number.</td></tr><tr><td>?</td><td>A question mark stands for the current model or method number</td></tr></table></td></tr>
<tr><td>spareSubFamilyNumber [String|?]</td><td>spareSubFamilyNumber : defines the article subfamily number to search for<table><tr><td>String</td><td>You can specify a particular subfamily number</td></tr><tr><td>?</td><td>A question mark stands for the article’s current subfamily number</td></tr></table></td></tr>
<tr><td>rangeNumber [String|?]</td><td>rangeNumber : defines the range number to search for<table><tr><td>String</td><td>You can specify a particular range number.</td></tr><tr><td>?</td><td>A question mark stands for the current range number</td></tr></table></td></tr>
<tr><td>count [UInt64]</td><td>count: defines the number of results to search for. These results will then be processed according to the choice of groupFonction</td></tr>
<tr><td>sortCriteria</td><td>sortCriteria: defines the sort criteria that will be applied before recognizing the analysis results. (see possible values below))</td></tr>
<tr><td>testRequestStatus</td><td>testRequestStatus: defines the test requests that will be selected to recognize the results (see possible values below)</td></tr>
<tr><td>groupFunction</td><td>groupFunction: defines how the results obtained will be processed (see possible values below)</td></tr>
</table>

Results calculation functions

Here is an example of the advanced use of the functions in the LIMS formula engine.

This feature can allow you to calculate, in order to apply a linear regression,

1. Slope
2. Intercept
3. R^2 (RSQ determination coefficient)

$$Y = SLOPE*X + INTERCEPT$$

$$R^2=RSQ$$

This gives the following results table to which we can apply a linear regression.

	X	**Y**
Standard 1	1.50176	750.4
Standard 2	2.402816	1265.9
Standard 3	3.03392	1567
Standard 4	3.640704	1913
Standard 5	4.247488	2195.6

In the formula engine, you have to set up two vectors which list the values for X & Y, respectively:

- For X: {1.50176,2.402816,3.03392,3.640704,4.247488}
- For Y: {750.4,1265.9,1567,1913,2195.6}

NB :

1. Each list is surrounded by {}
2. The decimal separator to use is the point (commas are used to separate each value in the list.)
3. Each numerical value can be obtained by the same formula.

To finish, the complete formula will redirect in this way:

NAME_FORMULA({*values Y*},{*values X*})

Or as in our example:

1. slope: SLOPE({750.4,1265.9,1567,1913,2195.6},{1.50176,2.402816,3.03392,3.640704,4.247488})
2. intercept: INTERCEPT({750.4,1265.9,1567,1913,2195.6},{1.50176,2.402816,3.03392,3.640704,4.247488})
3. R^2 : RSQ({750.4,1265.9,1567,1913,2195.6},{1.50176,2.402816,3.03392,3.640704,4.247488})

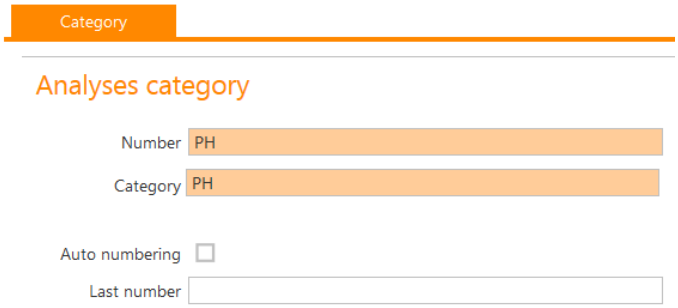
Y = 526,8577*X - 23,9310

R^2 = 0,9987

CHAPTER 2 / Appendix

Analyses categories

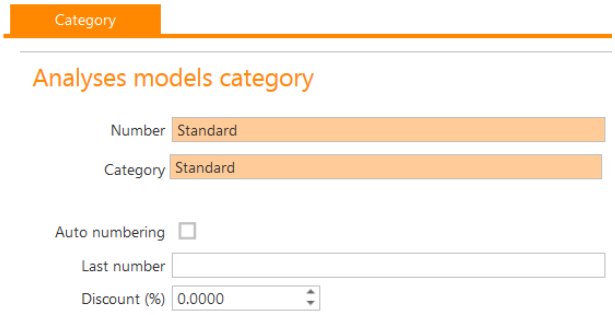
The analyses categories allow the user to create groups. They also allow for automatic numbering of new analyses that are associated with a category.



Number	The number assigned to the category
Category	The name of the category
Automatic numbering	Check to activate the automatic numbering feature
Last number	Enter the last number assigned which will be incremented by the automatic numbering feature. You can use a combination of letters and numbers.

Analyses models categories

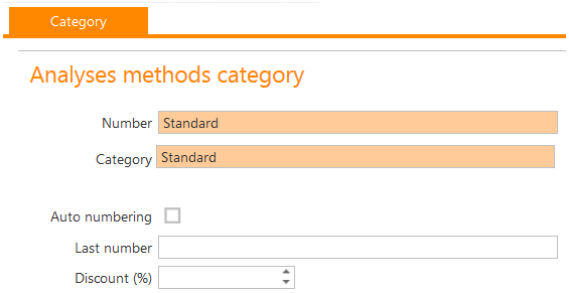
The analyses models categories allow the user to create groups. They also allow for automatic numbering of new models that are associated with a category.



Number	The number assigned to the category
Category	The name of the category
Automatic numbering	Check to activate the automatic numbering feature
Last number	Enter the last number assigned which will be incremented by the automatic numbering feature. You can use a combination of letters and numbers.
Discount (%)	The % discount on the customer price to apply for each category

Analyses methods categories

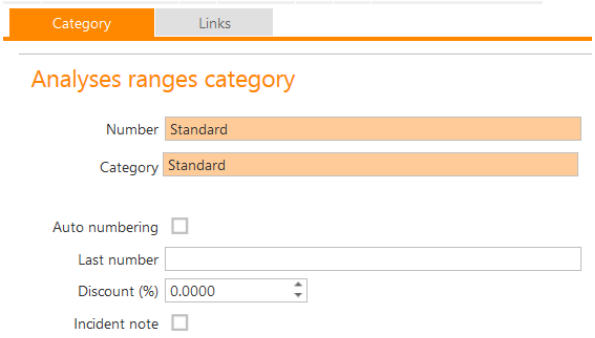
The analyses methods categories allow the user to create groups. They also allow for automatic numbering of new methods associated with a category.



Number	The number assigned to the category
Category	The name of the category
Automatic numbering	Check to activate the automatic numbering feature
Last number	Enter the last number assigned which will be incremented by the automatic numbering feature. You can use a combination of letters and numbers.
Discount (%)	The % discount on the customer price to apply for each category

Analyses ranges categories

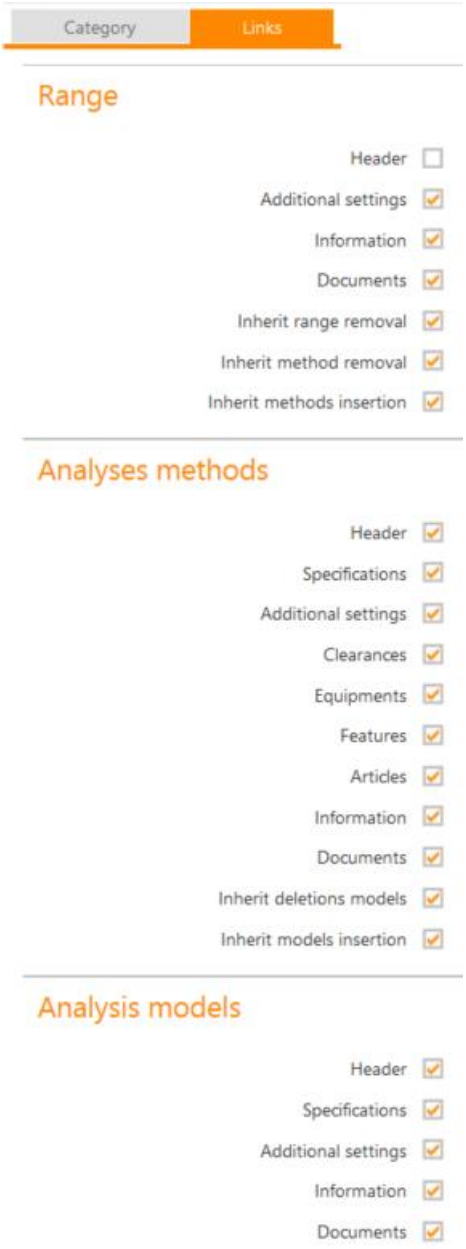
The analyses ranges categories allow the user to create groups. They also allow for automatic numbering of new ranges associated with a category



Number	The number assigned to the category
Category	The name of the category
Automatic numbering	Check to activate the automatic numbering feature
Last number	Enter the last number assigned which will be incremented by the automatic numbering feature. You can use a combination of letters and numbers.
Discount (%)	The % discount on the customer price to apply for each category
Incident note	Check to allow incident notes to be created for the ranges associated with this category.

Links tab

The links tab lets the user define the default values that will be used to configure the links between the ranges when the "duplicate with link" function is used.



Range	Specify the liaison settings for the ranges
Header	The range headers are linked
Additional settings	The complementary settings for the range are linked
Information	The open information fields for the ranges are linked

Documents	The attachments for the ranges are linked
Inherit range removal	Deleting a range also deletes the ranges that inherit from it
Inherit method removal	Deleting a method also deletes the same method from all the ranges that inherit from it
Inherit methods insertion	Inserting methods in the range also inserts them into the ranges that inherit from it.
Analyses methods	Specify the liaison settings for the analyses methods
Header	The method headers are linked
Specifications	The method specifications are linked
Additional settings	The complementary settings for the methods are linked
Clearances	The method accreditations are linked
Equipments	The equipment in the method is linked
Features	The method characteristics are linked
Articles	The articles in the method are linked
Information	The open information fields for the methods are linked
Documents	The documents attached to the methods are linked
Inherit model removal	Deleting a model for a method in the range also deletes the same model from all the methods in the ranges that inherit them
Inherit models insertion	Inserting a model for a method in the range also inserts the same model into all the models for methods in the ranges that inherit them
Analyses models	Specify the liaison settings for the models of the methods in the range.
Header	The model headers are linked.
Specifications	The model specifications are linked
Additional settings	The complementary settings for the models are linked
Information	The open information fields for the models are linked
Documents	The documents attached to the model are linked

Frequencies

"Frequencies" allow the user to define how often an analytical method or model appears in the test requests. If you do not stipulate the frequency in a method or model, the method or model will appear in every test request.

At the step 300 in the workflow, a test request is completed, and the application evaluates, for each method and each model, the necessity of generating them with respect to the frequencies attached.

There are several types of frequencies:

On-demand	The analyses that have been defined with this type of frequency are not automatically used even though they may be linked to a range listed in a test request. To display them, you need to check the "Display available on-demand methods and models" box in the "Filters" tab in the "Test request articles" screen. When you do so, a button appears next to the on-demand analyses and you can add them. Please note: When you add a method to the request, all the underlying mandatory models are also added. Only the non-mandatory models remain on-demand.
Except calendar	This type of calendar lets you exclude weekdays and other specific dates from the calendar. The

	test Request Date is the basis for comparison.
Only calendar	This type of calendar lets you include weekdays and other specific dates from the calendar. The test Request Date is the basis for comparison.
Duration	The system first recovers the last known test Request Date in the database for the same article and the same analysis (method or model as the case may be). If the duration set for the frequency has not occurred between the last date and the new test Request Date then the analysis is generated.
Sampling	If the duration is equal to 1 or if the article has no corresponding lot number, the analysis that uses this type of frequency will always be generated. The system will generate the analysis once every (n) samples for article/lot combinations or for the article alone, depending on the type of sampling defined in the frequency in which the duration is configured.
Batch/Sample	If the duration is equal to 1 or if the article has no corresponding batch number, the analysis that uses this type of frequency will always be generated. If the analysis has already been generated for the same Batch#/article combination, it will never be generated for it again. If the two first rules are not respected the system will generate the analysis once every (n) samples for batch/article combinations or for the article alone, depending on the type of sampling defined in the frequency in which the duration is configured.
Except	This type of frequency lets the user exclude weekdays. The test Request Date is the basis for comparison
Only	This type of frequency lets the user include weekdays. The test Request Date is the basis for comparison

All the types discussed above, with the exception of “Sampling” can be used in the “Frequency” dropdown lists for the analytical methods and models.

On the other hand, the “Sampling frequency” dropdown lists will only refer to “Sampling” frequencies.

When a new method or model refers to both a frequency and a sampling frequency, the system will evaluate both with so that both be used in the decision to generate the analysis.

Chapter 3: Test Requests

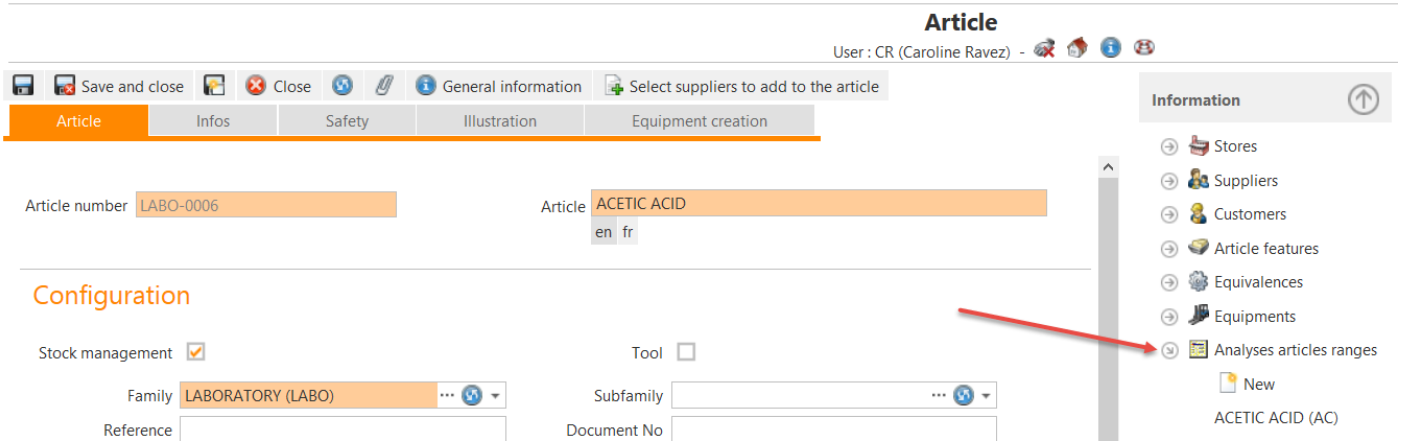
Article/Range link

The Article/Range link lets the user create relations between the articles for which you want to generate test requests, and their related ranges.

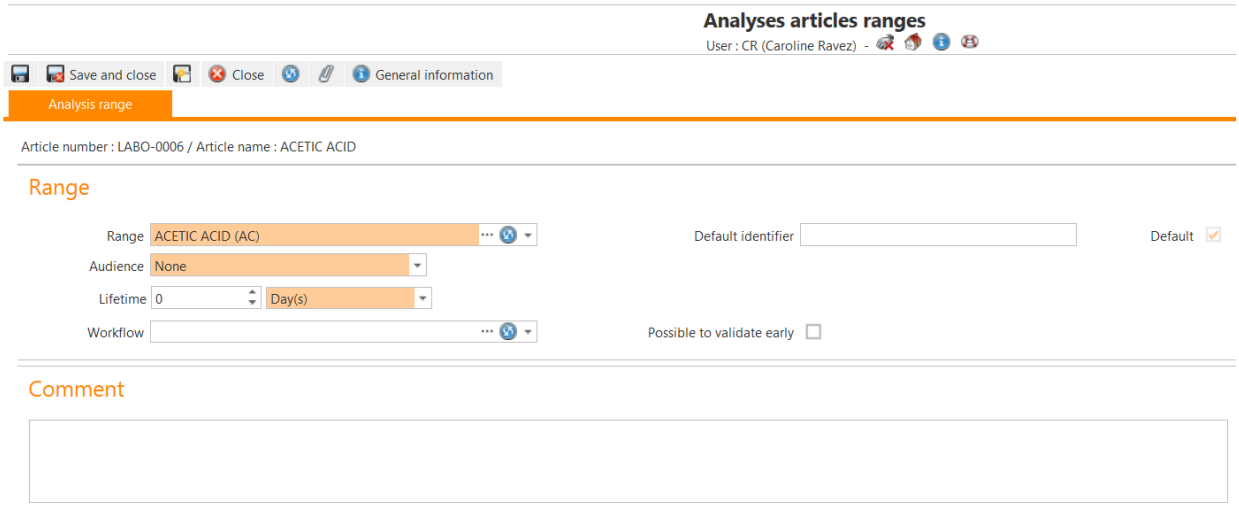
An article can have several related ranges, and one of these must be defined by default. The latter is suggested by default in the test request.

You can have customer- or supplier-specific ranges, and therefore if a test request is attributed to a customer or a supplier, the specific customer or supplier range will be used.

To add a new article range from the article edition page, click on “Analyses article range”, “New”.

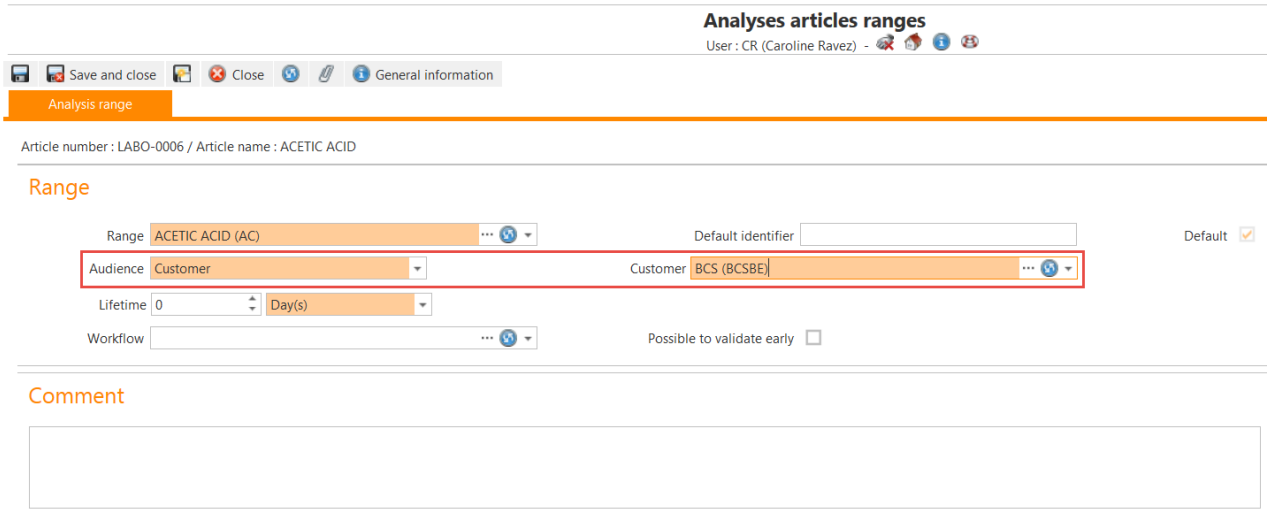


Associating a default range



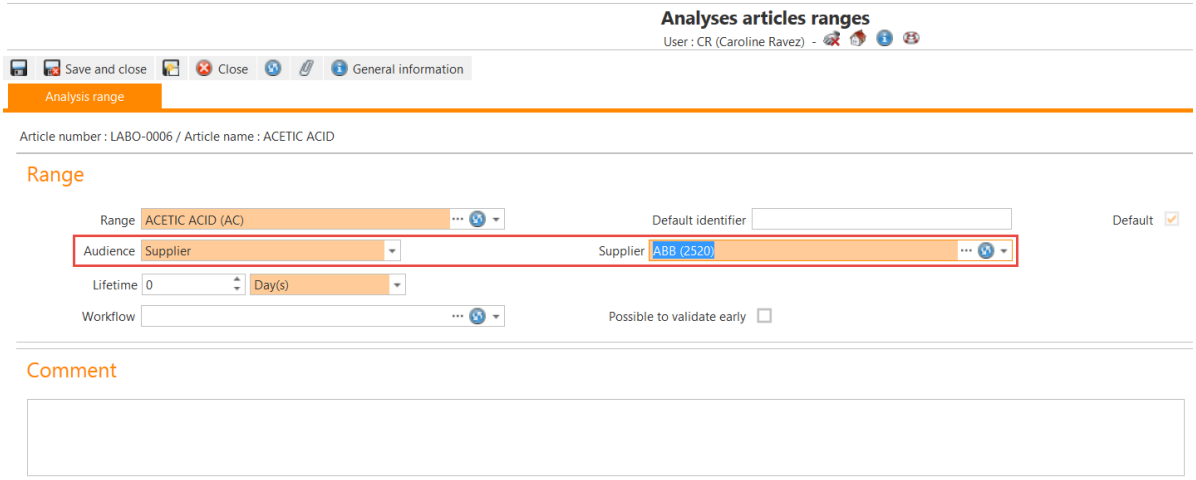
Range	The range to associate the article
Default identifier	The identifier will be used to number the samples. Letters can be used in the numbering.
Default	Check to define the default range
Audience	None
Lifetime	Calculate the batch's expiration date by adding the lifetime to the sample date, uniquely if the article is managed according to lifetime.
Workflow	Define the default workflow used to create a new test request

Associating a customer-specific range



Range	The range to associate to the customer
Default identifier	The identifier will be used to number the samples. Letters can be used in the numbering.
Default	Check to create the default range
Audience	Customer
Customer	Choose the name of the customer for whom the range will be applied
Lifetime	Calculate the lot's expiration date by adding the lifetime to the sample date, only if the article is managed according to lifetime.

Associating a supplier-specific range



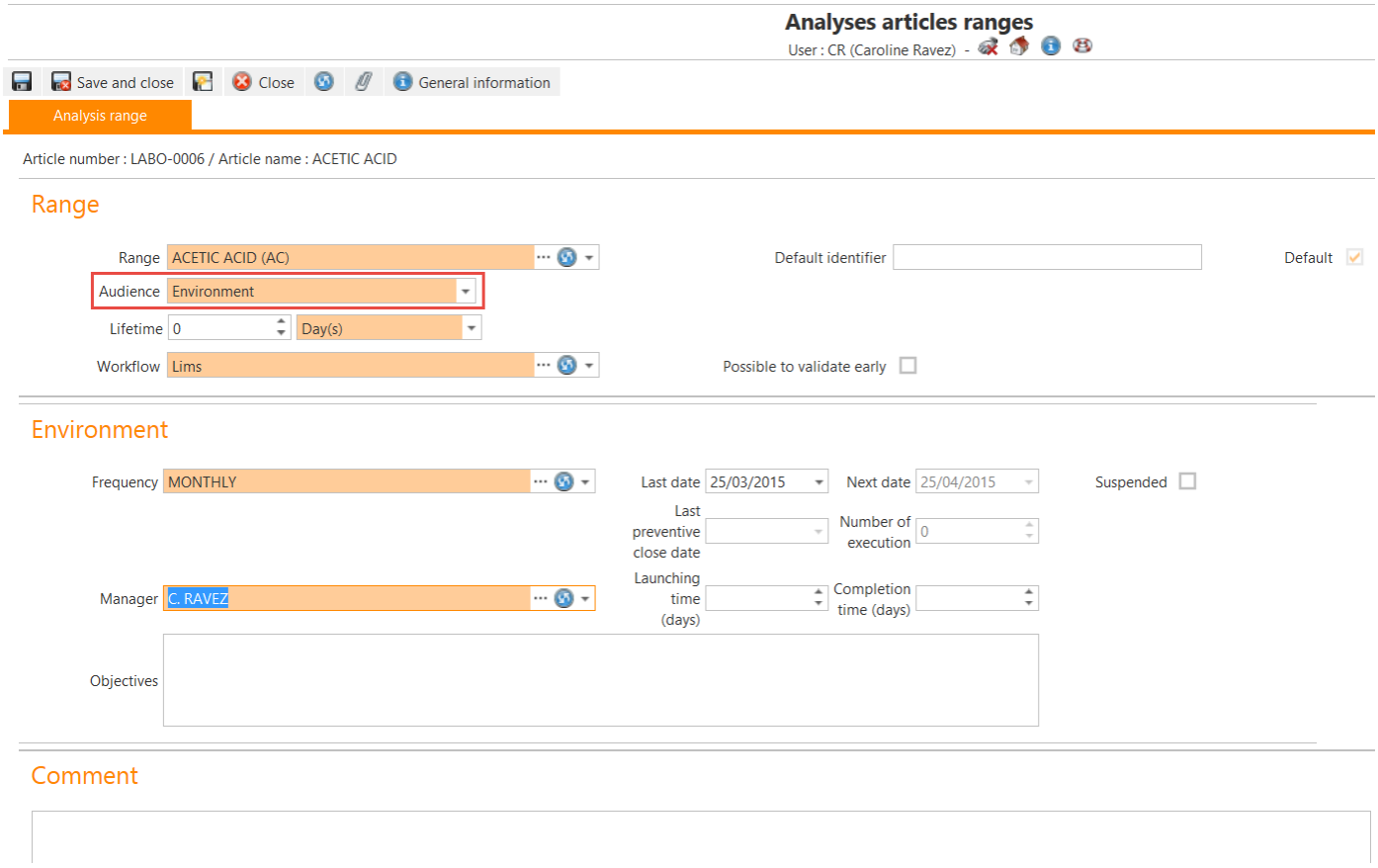
Range	The range to associate to the supplier
Default identifier	The identifier will be used to number the samples. Letters can be used in the numbering.
Default	Check to create the default range
Audience	Supplier
Supplier	Choose the name of the supplier for whom the range will be applied
Lifetime	Calculate the lot's expiration date by adding the lifetime to the sample date, only if the article is

	managed according to lifetime.

If you have taken on the purchasing option, then when you have a default range for a supplier, every time you are delivered an order of articles the order is put away with the “Quality Control” status and a test request will be automatically generated for that article. When the test request has been approved, the status of the article moves to “Available” if the test results show the article is compliant or to “Not available” if the result shows noncompliance.

Associating an environmental range with an article

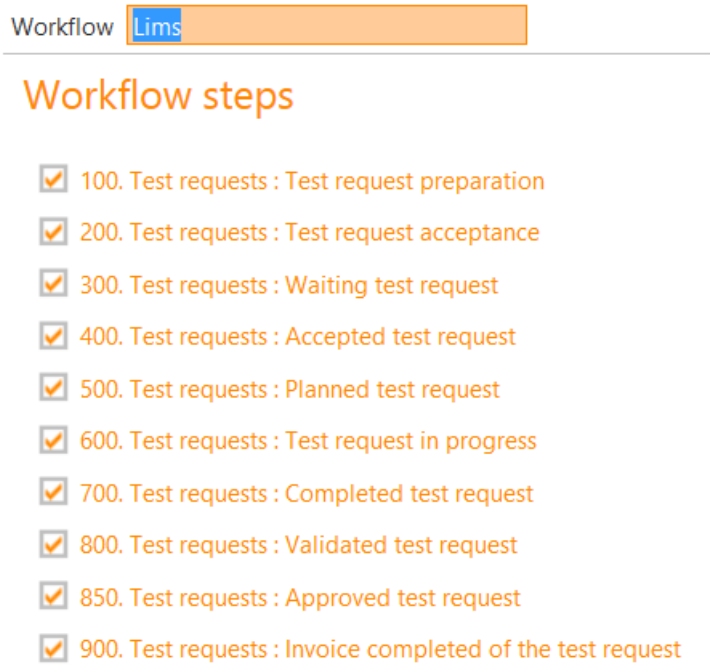
You can automatically generate test requests of your environmental analyses by associating an environmental range with an article frequency.



Range	The range to associate to the article for the supplier
Default identifier	The identifier will be used to number the samples. Letters can be used in the numbering.
Default	Check to create the default range
Audience	Environment
Lifetime	Calculate the lot’s expiration date by adding the lifetime to the sample date, only if the article is managed according to lifetime.
Workflow	The workflow that will be used in the test request
Frequency	How often environmental analyses are generated
Last date	Date the last analysis was generated
Next date	Date the next analysis will be generated
Last closing date	Date the last analysis was completed
Number of execution	The number of analyses carried out since setup

Manager	The requester will be named in environmental test requests
Launch timing	The number of days remaining until the next date, in which to generate the test request
Completion date	The maximum delay, in days, allowed after a test request deadline
Suspended	Checked: environmental test requests will no longer be generated.
Objectives	The objective will be mentioned in the test request.

Workflows



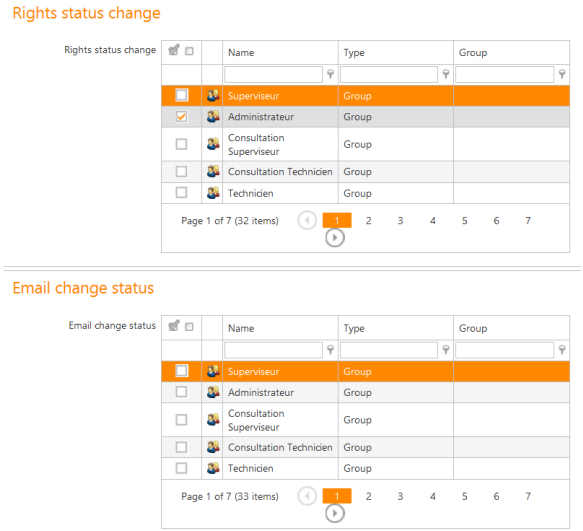
Workflows let you manage the steps inherent to test requests. They allow you to customize the steps through which the test request must go to be validated.

Description of the different steps

The following descriptions are not exclusive to the workflow operations, but rather show the different possibilities of using workflows that we have seen among our users. Other uses may be possible depending on your organization.

Test request preparation	The preparatory step for a test request
Test request acceptance	In this step, the request is accepted. For example, at this step, you can reviewed the contract terms.
Test request waiting for samples' delivery	The step in which you are waiting for the samples to be delivered
Samples validation of the test request	Validation of the samples
Planned test request	In this step, you schedule the equipment and staff
Test request in progress	Step during which you are entering the results.
Completed results entry of the test	Step in which all the results entry have been completed.

request	
Results validation of the test request	Phase in which the results are validated. The analysis report is generated during this step.
Approved test request	The results are approved.
Invoice completed of the test request	If you have the Customer option, in this step you create a delivery note for the customer order associated with the test request.



These workflows can be personalized according to the users or generally defined at the site level.

Some steps are mandatory or cannot be disassociated from each other.

At each step you can define the related rights and actions. It is therefore possible to manage e-mail alerts for certain users or user profilies. This is also where rights to change status at each step.

As some steps become obligatory as soon as another is activated, you can make them automatic. Thus, approval of the Test Requests is mandatory, but the “auto-approve” checkbox allows you to automatically complete this step with no further need for user approval. However, if this step is not automated, you can still manage approval rights and e-mail alerts. You can also manage the approval deadlines and delay alerts

Generic users in the Workflows

When configuring Workflows, there are a number of generic users that can be associated to the different validation steps. They can be displayed by clicking on .

Requester	The user who created the record. Access: Settings Menu -> Users
Writer	The person in charge of preparing the written documents. Corresponds to the writer indicated in the Test Request. Access: Results Menu -> Test request.
Approbator	The person responsible for approving the results, indicated in the Test Request. Access: Results Menu -> Test request.

Workflows suggested by default when creating test requests

The automatic selection of a workflow in the LIMS for Test requests and Simplified Test Requests is carried out in the following way:

- Test Requests

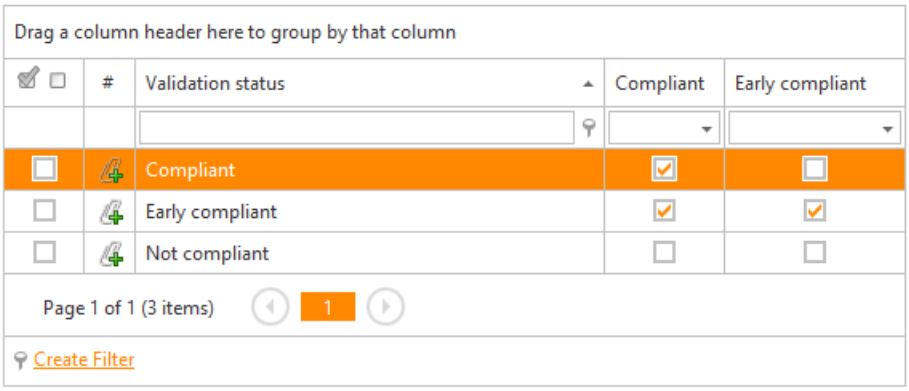
1. The system will search for the LIMS workflow defined in the requester's "User" sheet.
2. If it is not found, the system will search for the LIMS workflow defined in "Site" sheet for the site involved in the Test Request
3. If the system cannot find it, the LIMS workflow will need to be input manually in the "Test Request" sheet

- Simplified Test Requests

1. The system will search for the LIMS workflow defined in the requester's "User" sheet.
2. If it is not found, the system will search for the LIMS workflow defined in "Site" sheet for the site of the Test Request
3. If the system cannot find it, the user will need input the LIMS workflow manually using the "Test Request" sheet
4. When selecting or changing the article, audience, customer and/or supplier, the system will scan all the "Article Ranges" to see if there is a LIMS workflow corresponding by default to the article/audience/customer or supplier associations, and if it finds one, it will use this workflow for that combination. This operation can only be done during the creation of the simplified test request, before the request has been saved.

Validation status

Three levels of validation status are offered by default. You can adapt the names and add others, for example, "Customer



derogations", ..;

Validation status	The name of the status
Compliant	Checked: validates the compliance of the Test Request
Early compliance	Checked: validates the advance compliance of the Test Request

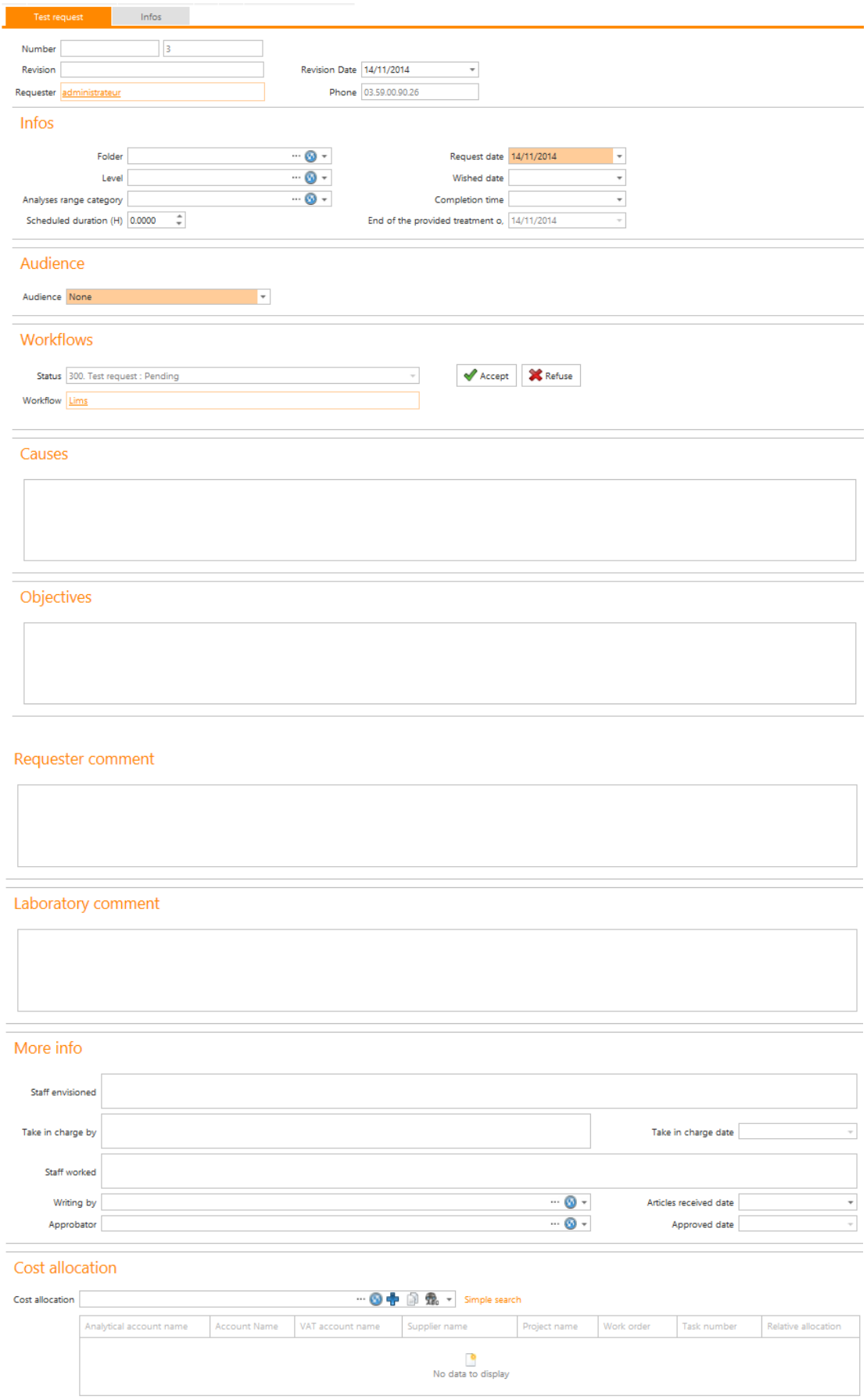
Test requests

Test requests are made up of several screens: a header screen and an article screen.

The header screen contains the general information pertaining to the test request. The article screen lists the articles, samples and ranges to be tested.

There is a simplified test request screen allowing fast use in production control. This faster screen should be used if you only have one article per test request, as explained below.

Header screen



Number	The number has two parts: a prefix (see below) and an automatically-incremented number.
Revison	The revision index for the test request There are two ways to show a revision number : 1. Input the basic incremental number in the application's site screen. This will automatically be used in the test request. 2. Input a number directly into the test request The revision numbers can be shown in the following manner: 1, A, A1,… 1 will continue as 2, 3, 4, ... A will continue as B, C, D, ... A1 will continue as A2, A9, B0, B1, ... The test request revisions will be automatically generated: 1. Upon creation of the request: the request revision numbers are copied from the site screen to the test request. 2. When going back from the Validation (800) to Completed (700) : the revision number is incremented and the revision date is updated
Revison date	Date of the last revision
Requester	Name of the person making the request
Phone	Requester's phone number
Folder	The record associated with the test request. Filing lets the test requests be grouped for specific spreadsheet analyses.
Request date	Date the request was created
Level	The level associated with the test request. Levels allow the test requests be grouped and can be exploited through file-generated spreadsheet
Wished date	Date on which the test results are required
Analyses range category	Inputting the range category will filter the suggested ranges in the article screen for the test request.
Completion time	Time to realize this test request
Scheduled duration (h)	The time provided for in hours. This duration is used in the lab's production statistics.
Processing scheduled on	The end date for processing the data collected. Calculated from the scheduling.
Audience	Audience (none, customer, supplier, environment)
Supplier	The supplier associated with the audience
Customer	The customer associated with the audience
Customer quote	The customer quotation associated with the audience (Sales option)
Customer order	The customer order associated with the test request (Sales option)
Workflow	Workflow
Causes	Open field
Objectives	Open field
Requester comment	Open field
Laboratory comment	Open field

Take in charge date	The date is automatically filled in when scheduling the test request in the scheduling screen
Take in charge by	The list of people scheduled to carry out the operations. It is automatically filled in when scheduling the test request in the scheduling screen.
Article delivery date	The date on which the samples are to be delivered.
Preparer	The person designated to write the test report
Approval date	Date on which the test report was approved
Approbator	The user designated to approve the test report. The list of people authorized to approve is filled in with the hidden selected from the list "Agreement request" for step "850 – Approved test request" in the workflow associated with the request.
Cost allocation	The table of cost allocation allows for accounting imputations to be defined.

Info tab

This tab lets you display customizable fields allowing you to input complementary information.

Number prefix in test requests

Test requests can have an automatically generated prefix, e.g. the customer number followed by the year.
Defining the format for the prefix is done in the site sheet: Settings menu -> Sites -> Numbering tab

Recognized formats for numbering the test requests

#Audience.Number#	Customer or supplier number
#Audience.Text1#	Text 1 for customer or supplier
#Audience.Text2#	Text 2 for customer or supplier
#Audience.Text3#	Text 3 for customer or supplier
#Audience.Text4#	Text 4 for customer or supplier
#Audience.Text5#	Text 5 for customer or supplier
#Audience.Text6#	Text 6 for customer or supplier
#Audience.Memo1#	Memo1 for customer or supplier
#Audience.Int1#	Integer1 for customer or supplier
#Audience.Int2#	Entire2 for customer or supplier
#Audience.Int3#	Integer3 for customer or supplier
#Audience.Int4#	Integer4 for customer or supplier
#Audience.Int5#	Integer5 for customer or supplier
#Audience.Int6#	Integer6 for customer or supplier
#MM#	Month in 2 numbers for the date of the test request
#DD#	Day in 2 numbers for the date of the test request

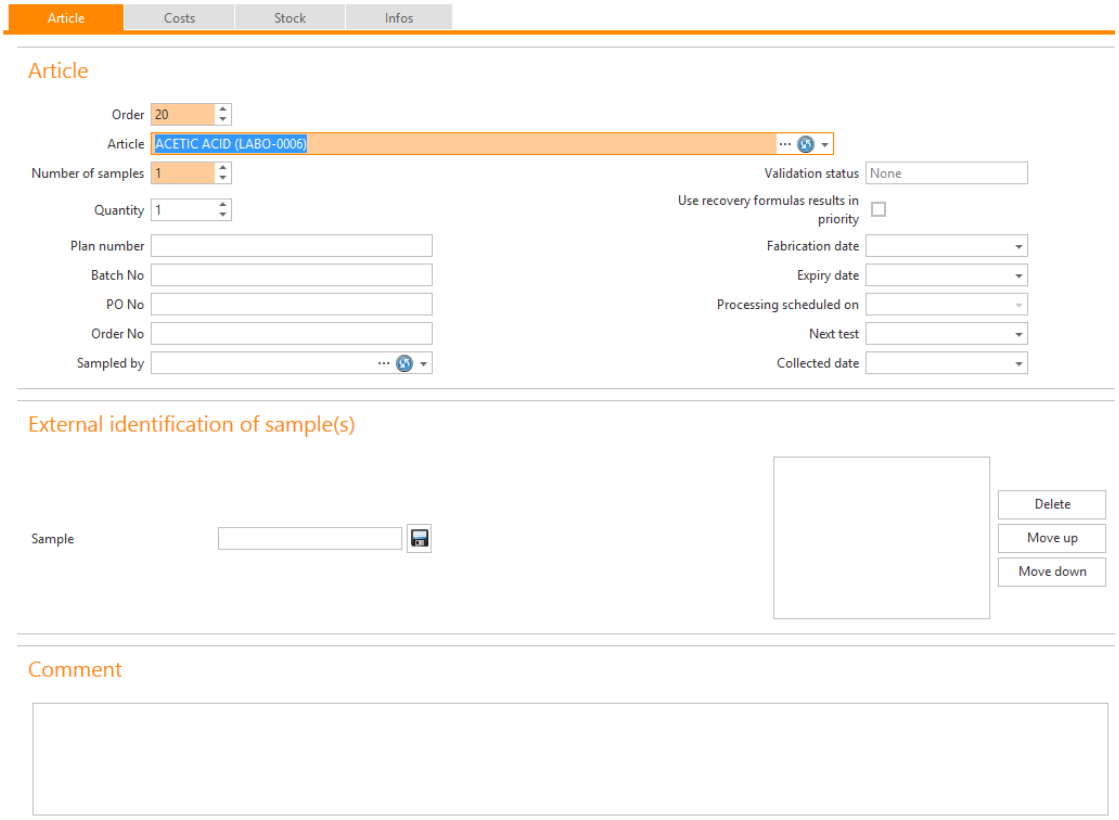
Example:

Syntax: #Audience.Number#-#YYYY#

Gives us for customer number 001: 001-2012

Article screen for test requests

The article screen for test requests lets you add several articles to the request. If you usually have only one article you can use the simplified request screen.



Order	The order in which the articles are presented
Article	The article. The list only uses articles which are associated with a range.
Number of samples	The number of samples generated for the input of the results
Quantity	The quantity per batch (for information)
Use recovery formulas results in priority	Check to use the results recognition formulas before any others
Plan Number	Open field
Fabrication date	The date of manufacture (for information)
Batch No	Lot number (for information)
Expiry date	The date on which the lot expires
PO No	The production order number (for information)
Processing scheduled on	The end date for processing the data collected. Calculated from the scheduling.
Order No	Order number (for information)
Next test	The date of the next retest
Sampled by	Name of the person who took the sample(s)
Collected date	The date on which the sample(s) was/were taken
Comment	Open field

After choosing an article and recording it, a tree view appears at the bottom of the screen, corresponding to the range that will be applied to this article. The range can be modified before moving on to step 400 of the workflow.

Number prefix for articles used in test requests

Test request articles can have an automatically generated prefix, e.g. the customer number followed by the year.

Defining the format for the prefix is done in the site sheet: Settings menu -> Sites -> Numbering tab

Recognized formats for numbering the articles used in test requests

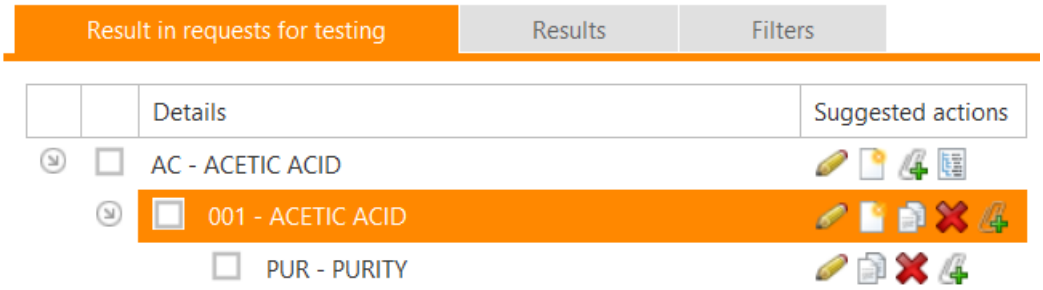
#Audience.Number#	Customer or supplier number
#Audience.Text1#	Text 1 for customer or supplier
#Audience.Text2#	Text 2 for customer or supplier
#Audience.Text3#	Text 3 for customer or supplier
#Audience.Text4#	Text 4 for customer or supplier
#Audience.Text5#	Text 5 for customer or supplier
#Audience.Text6#	Text 6 for customer or supplier
#Audience.Memo1#	Memo1 for customer or supplier
#Audience.Int1#	Integer1 for customer or supplier
#Audience.Int2#	Integer2 for customer or supplier
#Audience.Int3#	Integer3 for customer or supplier
#Audience.Int4#	Integer4 for customer or supplier
#Audience.Int5#	Integer5 for customer or supplier
#Audience.Int6#	Integer6 for customer or supplier
#YYYY#	Year in 4 numbers for the date of the test request
#MM#	Month in 2 numbers for the date of the test request
#DD#	Day in 2 numbers for the date of the test request
#TRNumber#	Test request number
#SpareNumber#	Test request spare part number

Example :

Syntax: #Audience.Number#-#YYYY#

Gives us for customer number 001: 001-2012

Test request tree view tab



The first line corresponds to the default range. If you have chosen the customer or supplier audience and these are associated with a specific range, then that range is the one suggested.

You have four icons to use when modifying the range:

Pencil	The pencil lets you change some of the settings in the selected range.
White sheet of paper	The white sheet of paper lets you add extra methods to the range
Paper clip	The paper clip is used to attach documents.
Tree view	The tree view lets you change the range associated with the article. The current range will be replaced by the selected one.

The second level of the tree view corresponds to the methods in the range.

You have five icons to use when modifying the range:

Pencil	The pencil lets you change some of the settings in the selected method. If you are using the test conditions, this is where you input them.
White sheet of paper	The white sheet of paper lets you add extra models to the method.
Double sheet of paper	The double page is used to duplicate the method.
Red “X”	The red “X” lets you delete the method and its models
Paper clip	The paper clip is used to attach documents.

The third level of the tree view corresponds to the models of the methods in the range.

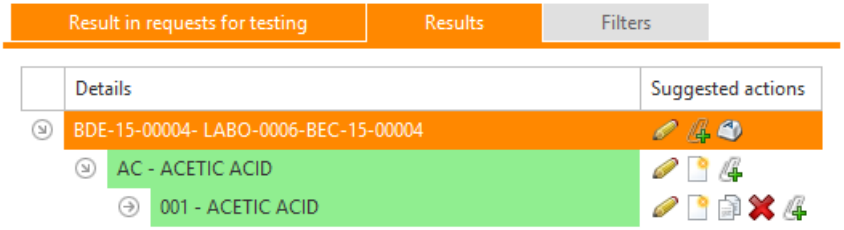
You have four icons to use when modifying the range:

Pencil	The pencil lets you change some of the settings in the selected model. If you are using the test conditions, this is where you input them.
Double sheet of paper	The double page is used to duplicate the model.
Red “X”	The red “X” lets you delete the model.
Paper clip	The paper clip is used to attach documents.

Results tree view tab

The information in the results tab appears in step 500 of the workflow.

The results tab can be used to enter the results of the models and the methods.



The first tree view level corresponds to the article sample.

You have three icons to use when modifying the range:

Pencil	The pencil lets you change some of the settings in the sample, such as the date, the client number for the sample and the open fields.
Paper clip	The paper clip is used to attach documents.
Keyboard button	The keyboard button lets you rename the sample number.

Samples can be numbered in three ways:

1. A number in function of the article range (see the article/range link: default field identifier)
2. An overall site number (Settings menu -> Sites/Languages -> Sites -> Editing screen -> Numbering tab -> LIMS Options panel -> Sample)
3. A number beginning with 01 for each article in each test request. To use this form of numbering, the default identifier for the article analysis range must contain a question mark (?) and the overall site number must contain a question mark (?). The samples are then numbered according to the formula: 01, article Nb - 02, article Nb - 03, ...

An identification number can have numbers and letters, and the entire set is then automatically incremented.

As this is an alphanumerical field, when using numbers, zeros to obtain a correct classification.

Examples:

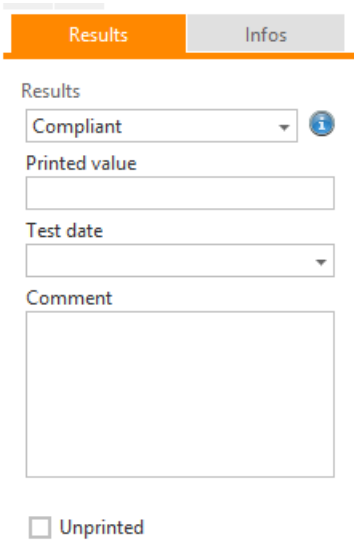
001 -> 002, 003, 004, ...

ABC -> ABD, ABE, ABF, ...

The second tree view level corresponds to the sample range taken from the first level

You have three icons to use when modifying the range:

Pencil	The pencil is used to enter the range results, see below.
White sheet of paper	The white sheet of paper lets you add extra methods to the method.
Paper clip	The paper clip is used to attach documents.



The results input screen for the range allows you to record the following elements:

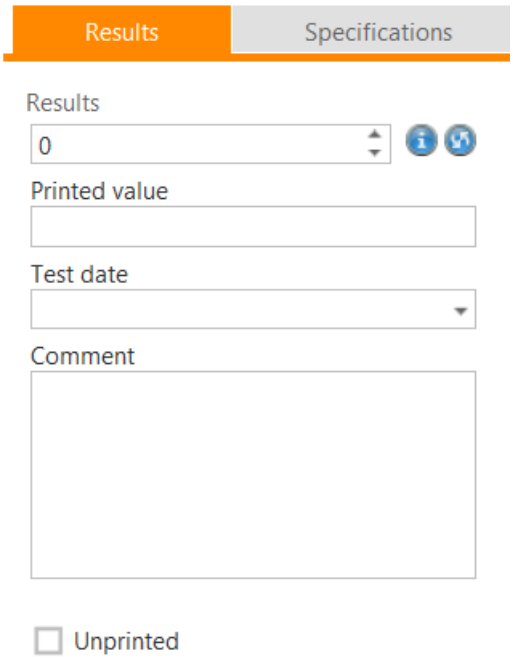
Results	A dropdown list of the release statuses is provided
Printed value	Here you can enter any text to be reproduced in the analysis report, to replace the results
Test date	The date the test is run
Comment	Comments on the test
Unprinted	The results will not be printed in the analysis report
Infos tab	This tab lets you display customizable fields allowing you to input complementary information.

The third tree view level corresponds to a method in the range.

You have five icons to use when modifying the range:

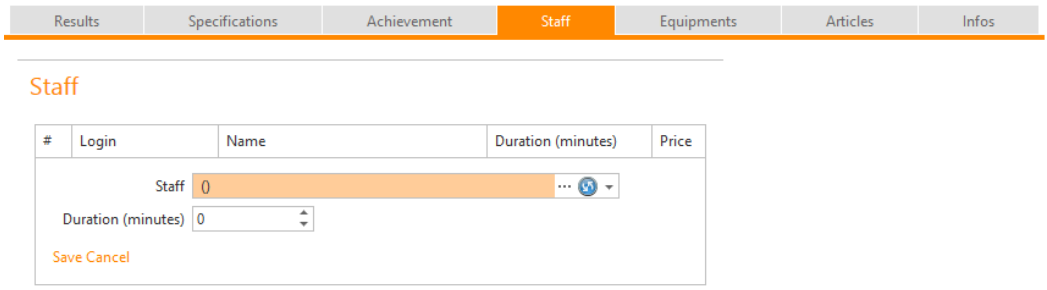
Pencil	The pencil is used to enter the range results, see below.
White sheet of paper	The white sheet of paper lets you add extra models to the method.
Double sheet of paper	The double page is used to duplicate the method.
Red “X”	The red “X” lets you delete the method and its models
Paper clip	The paper clip is used to attach documents.

The results input screen for the range lets you enter the following elements:



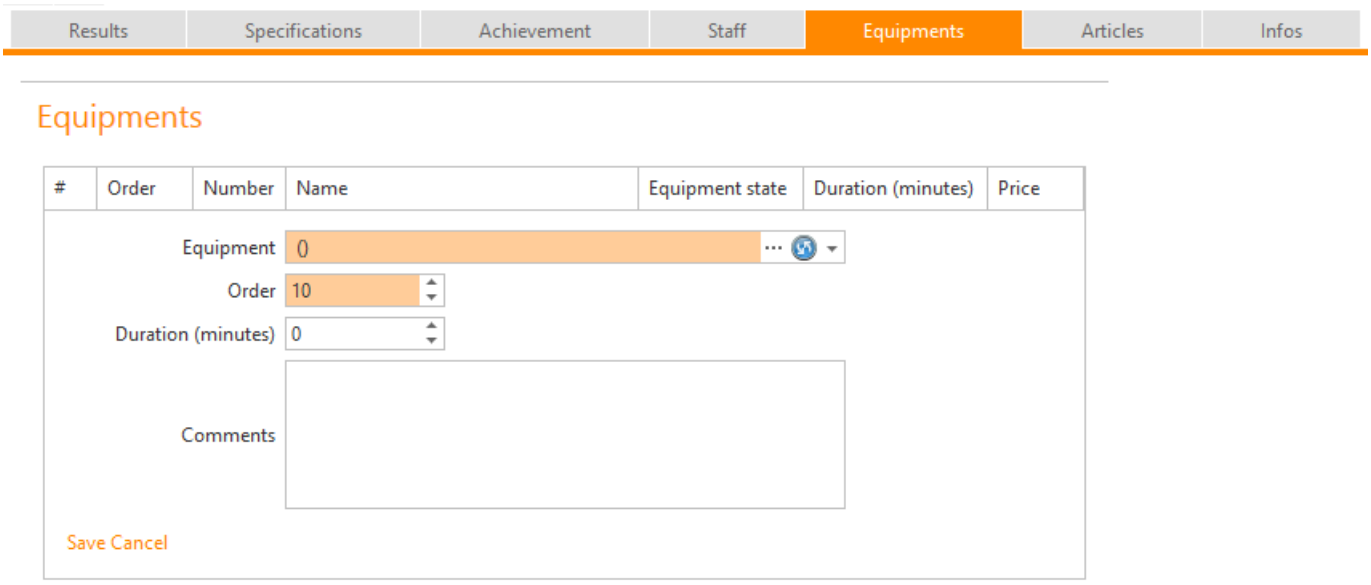
Results	Depending on the type of result expected, you can introduce a value, a text, a date, or you can choose in a dropdown list of available values.
Information icon	Hover the cursor over the icon to see the specifications
Refresh icon	For results that are obtained from a formula, the formula is evaluated
Printed value	Here you can enter any text to be reproduced in the analysis report, to replace the results
Test date	The date the test is run
Comment	Comments on the test
Unprinted	The results will not be printed in the analysis report
Specifications tab	Displays the method specifications. These can be modified in step 300 of the workflow
Achievement tab	Displays the completion deadlines for the methods. These can be modified in step 300 of the workflow
Infos tab	This tab lets you display customizable fields allowing you to input complementary information.

The staff tab lets you record the man-hours spent carrying out the test.



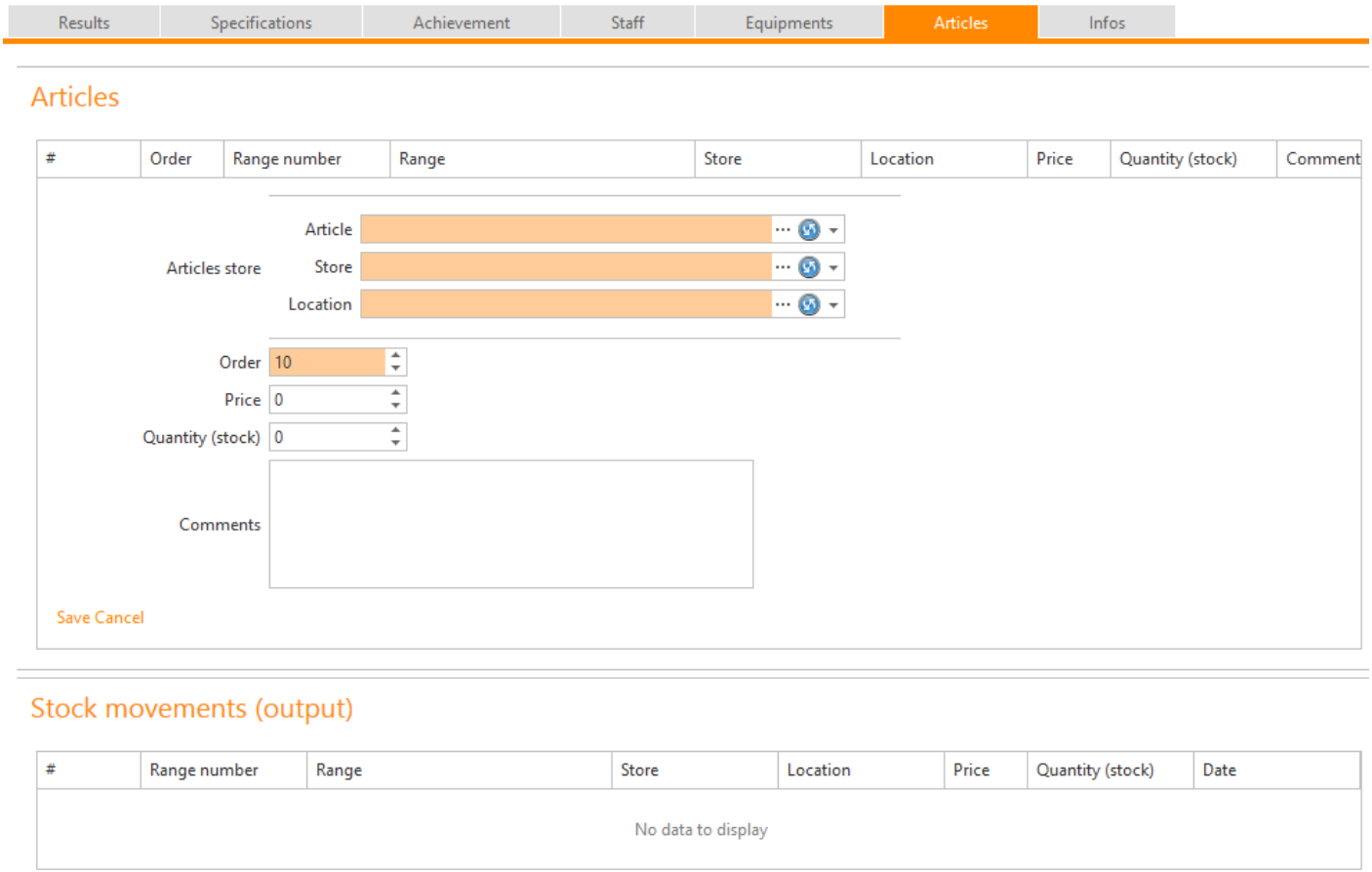
Staff	The name of the staff member who performed the test
Duration (minutes)	Time worked

The equipment tab lets you record the time spent using equipment to carry out the test. The equipment scheduled in the range method is displayed in this screen.



Equipment	Name of the equipment used
Order	The order in which the equipment is displayed
Duration (minutes)	Equipment runtime
Comments	Comments

The articles tab lets you record the articles consumed in performing the test. The articles scheduled in the range method are displayed in this screen.



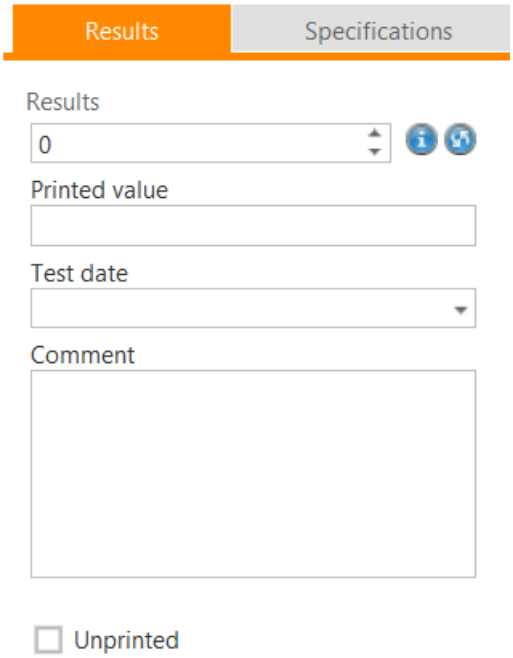
Article	Name of the article used
Store	The store where the articles are kept
Location	The place the article is stocked in the store
Order	The order in which the articles are displayed
Price	The valued price for the article
Quantity	The quantity of article used
Comments	Comments

The stock movements (output) shows all the withdrawals made for this method.

The fourth tree view level corresponds to a model for a method in the range.

You have four icons to use when modifying the method:

Pencil	The pencil is used to enter the results of the method, see below.
Double sheet of paper	The double page is used to duplicate the model.
Red “X”	The red “X” lets you delete the model.
Paper clip	The paper clip is used to attach documents.



The results input screen for the model allows you to record the following elements:

Results	Depending on the type of result expected, you can introduce a value, a text, a date, or you can choose in a dropdown list of available values.
Information Icon	Hover the cursor over the icon to see the specifications
Refresh icon	For results that are obtained from a formula, the formula is evaluated
Printed values	Here you can enter any text to be reproduced in the analysis report, to replace the results
Test date	The date the test is run
Comment	Comments on the test
Unprinted	The results will not be printed in the analysis report
Specifications tab	Displays the method specifications. These can be modified in step 300 of the workflow
Achievement tab	Displays the completion deadlines for the methods. These can be modified in step 300 of the workflow
Info tab	This tab lets you display customizable fields allowing you to input complementary information.

Processing the results

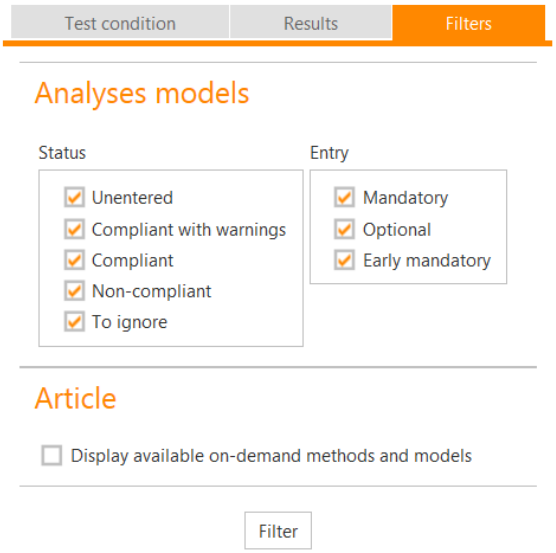
The results of the test are based on default values, or on a formula, or they can also be input manually. The results processing engine can have an impact on the compliancy status of the methods and ranges for the samples, depending on the values taken from the lower hierarchical levels.

Below is a summary of the impacts of the results procession on compliance that are automatically applied:
A method with a value of “None” will be:

- Complaint if: it contains no model that must be included, or must be anticipated OR if all the models that must be included or anticipated are compliant.
- Non-compliant if it contains one or more non-compliant model that must be included or anticipated
- Compliant with warnings if all the models that must be included or anticipated are compliant and at least one of them is compliant with an alert.

The same is true for the range with respect to the models included in it. The compliance status for the range can, however, be modified by a user who has the necessary rights to do so. Be aware, however, that any previous save of any underlying result will restart the processing engine and will modify the compliance status for the range with respect to the results gathered during the analysis.

Tree view filters tab



This filters tab lets the user filter the elements in the tree views for the test conditions and results.

Status	Check to display the status of the methods and models. Unentered : the results have not been recorded Compliant with warnings: the result has been entered and has generated an alert Compliant: the result has been entered and is compliant Non-compliant the result has been entered and is not compliant To ignore : the results analysis should not be taken into consideration
Entry	Check the entries to display

Display available on-demand methods and models	Check to display the on-demand analysis in the test conditions. The analyses defined with this frequency are not automatically used when using a range that references them for a test request. To see them, you have to check the “Display available on-demand models and methods” in the “Filters” tab of the “Test request articles”. A button will appear next to the analyses with this frequency, and they can then be added. Note: when you insert a method in a request, all the underlying obligatory models will also be added. Only the “non-obligatory” ones will stand alone with respect to the request.

Importing results in an Excel spreadsheet

Importing analyses results from an Excel spreadsheet can be done automatically when attaching a document to a sample results line.

Prerequisites: You have to have configured a document category for Excel imports (Settings menu -> Mails and documents -> Document categories) and have specified this category in the “Document category to import Excel documents in the LIMS” function (e.g.: Import XL).

To import a value to a results line, the Reference field for the analysis method or model must contain the address of the cell in the Excel spreadsheet. These addresses must be written as in these examples: A1, B17, Sheet2!A2, ...

If you only specify the cell (e.g. A2) the value will be recognized in the first sheet of the folder.

If you want to recognize data in a specific spreadsheet, the reference must be the name of the sheet followed by an exclamation point, then by the name of the cell (ex : Sheet2!B2 recognized value B2 in the sheet named Sheet2).

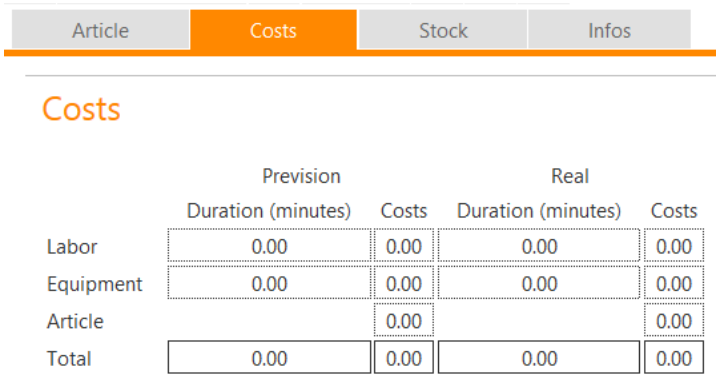
If you attach the document to a range, all the analyses models and methods for this range that contain a reference will be updated.

If you attach the document to a method, all the analyses models for that method that contain a reference will be updated.

If you attach the document to an analyses model that contains a reference, only that model will be updated.

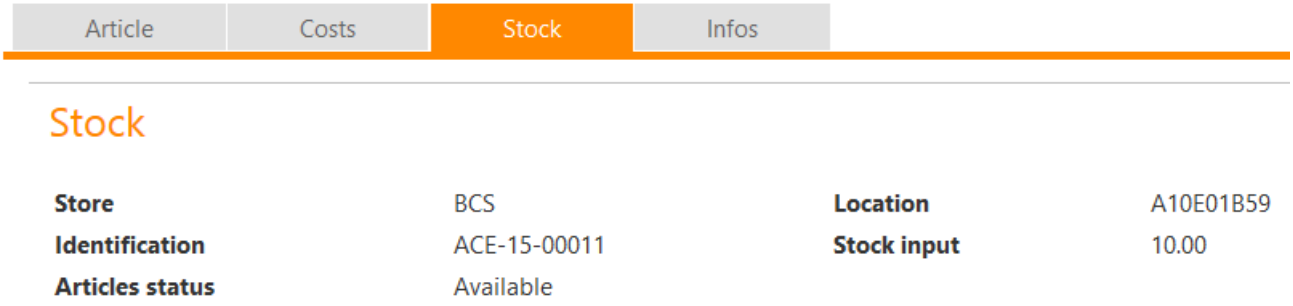
Accepted Excel documents are XLS (Excel 2007) and XLSX (Excel 2010, 2013)

Costs tab



The costs tab lists all the provisional and actual costs of the labor, equipment used, and articles consumed that were declared in the article range methods.

Stock tab



The stock tab contains information when the test request has been automatically generated from a delivery note or a supplier invoice. This information will be used to automatically release the stock when the test request has been approved.

Store	The store where the articles are kept
Location	The storage location
Identification	The lot number
Stock input	The amount delivered and put away in the store
Article status	The status of the stored article

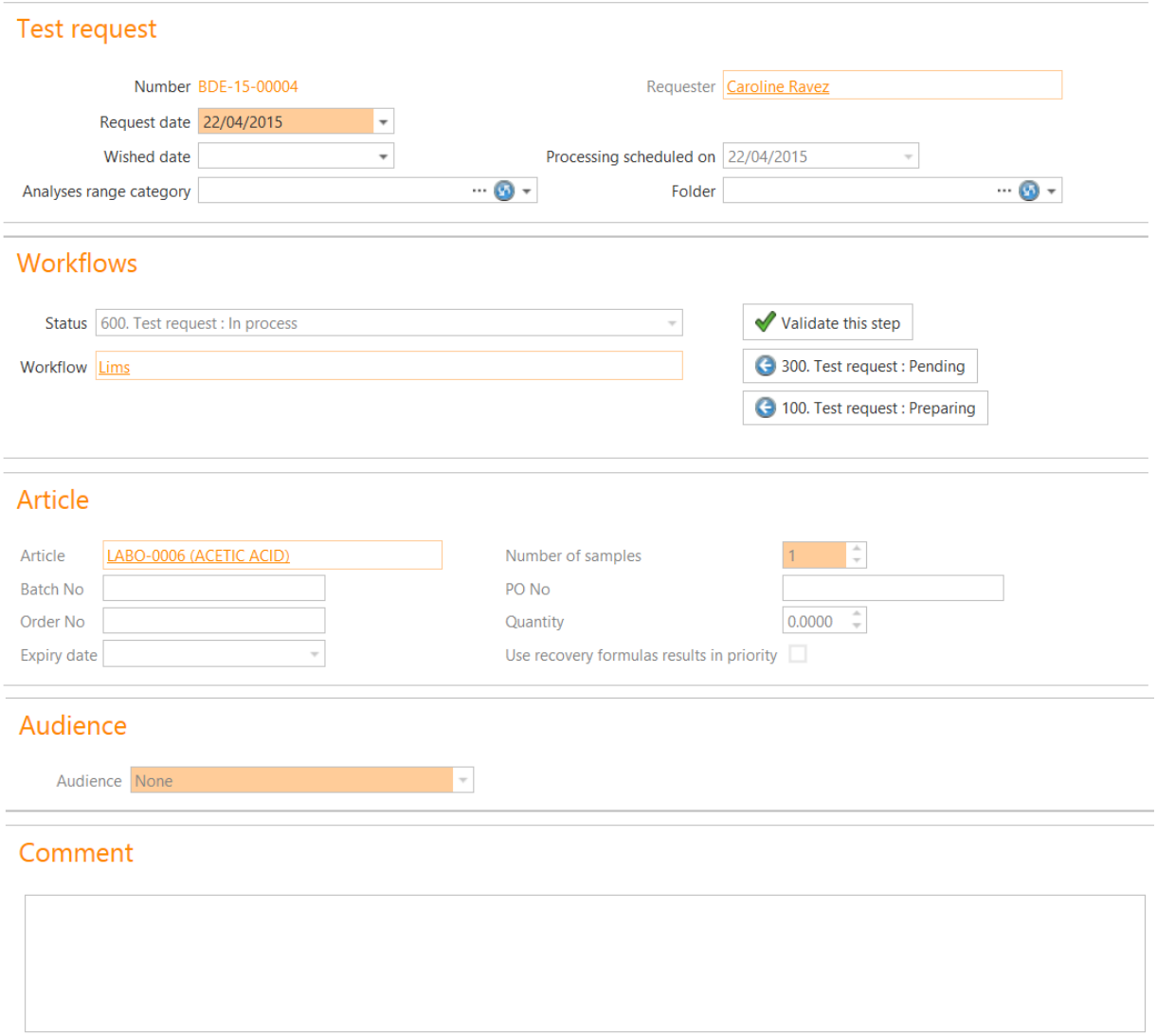
Special functions

The sidebar menu for the test requests includes two special functions:

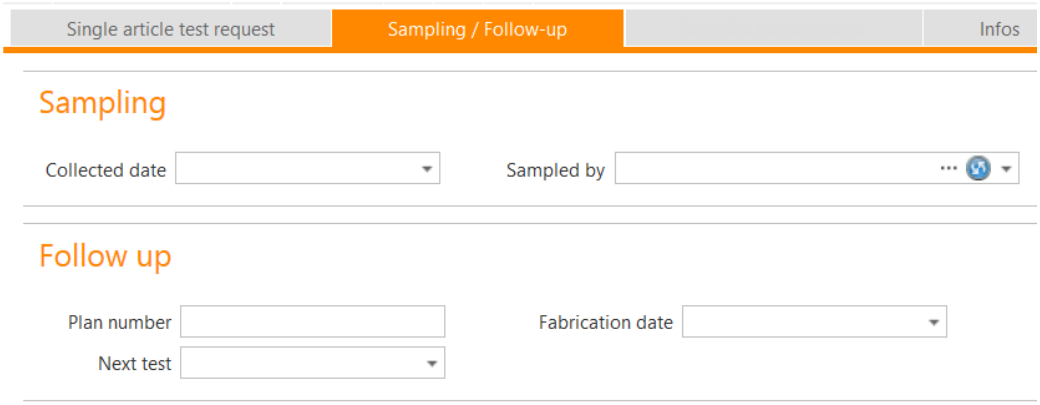
Generate report	The test report is generated and appears in the attached documents. If the test request has not been approved, a watermark appears on the report as a reminder.
Update the formula-based results	The formulas contained in the test requests are not automatically evaluated, in order to avoid unnecessary processing time when the results are entered. To update the formulas, you need to activate this function.

Simplified test requests

The simplified test request screen is used for fast entry of test requests with only one article. This is the standard screen for monitoring quality control on the production floor.



Number	The number that is automatically incremented.
Requester	Name of the person making the request
Request date	Date the request was created
Analyses range category	The category of the range entered will filter the suggested ranges in the article screen for the test request.
Wished date	Date on which the test results are required
Folder	The record associated with the test request. Filing lets the test requests be grouped for specific Excel spreadsheet analyses.
Processing scheduled on	The end date for processing the data collected. Calculated from the scheduling.
Audience	**Audience (none, customer, supplier, environment)**
Supplier	The supplier associated with the audience
Customer	The customer associated with the audience
Customer quote	The customer quotation associated with the audience (Sales option)
Customer order	The customer order associated with the test request (Sales option)
Workflow	Workflow
Comment	Open field



Sampling / Follow-up tab

Collected date	The date the sample was taken
Sampled by	The name of the person who took the sample
Plan number	Open field
Fabrication date	Open field
Next test	The date of the next retest.

Infos tab

This tab lets you display customizable fields allowing you to input complementary information.

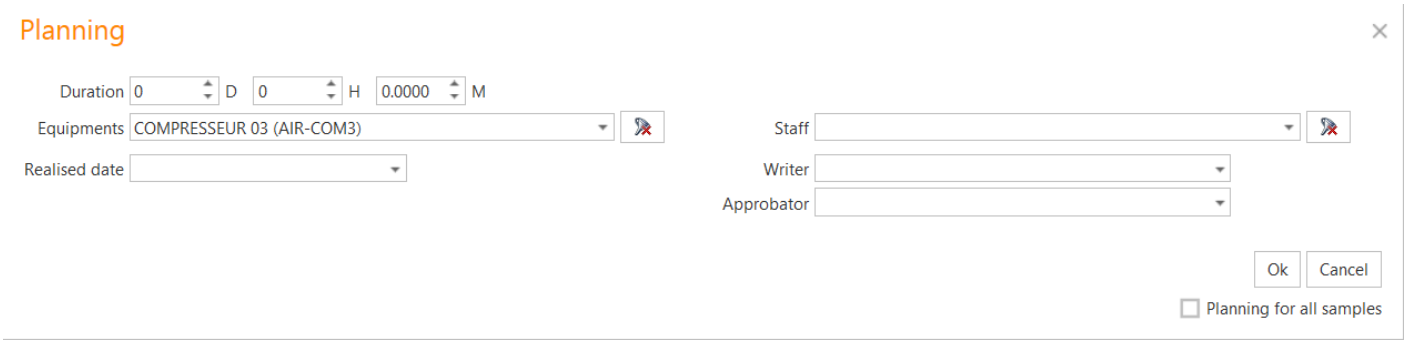
Range of articles in the test request

See the previous information on test requests.

Test requests planning

Planning is carried out through the method and the test request samples.

Test requests planning lists the equipment and staff in order to allow for scheduling. In the lower part of the screen, you will find all the methods for scheduling a test request.



You can drag methods onto a person's name or an element of equipment to schedule them. The first time that you schedule a method, the following screen opens:

Duration	Stipulate the duration to be scheduled.
Equipments	Choose one or more elements of equipment to schedule
Staff	Choose one or more persons to schedule
Realized date	Schedule the end of the operations. This will be recognized in the test request.
Writer	Enter the name of the person who wrote the test request.
Approbator	Indicate the person who will approve the analysis report.
Planning for all samples	All the samples will be scheduled for the method.

Analyses reports and certificates of compliance

The analyses reports and/or certificates of compliance can be established through the combination of MS Word documents.

Configuring the LIMS to combine documents

To make it possible to combine documents, you have to configure the following elements:

Choice of the document format to use

Accepted formats are: Word 2007 (.doc), Word 2010 (.docx), Word 2007 + PDF, Word 2010 + PDF

This choice determines in which format you will be working and in which format the documents will be created (certificate or analysis report). If you choose to use the format + PDF, in this case two documents will be generated, one in Word and the other as a PDF file.

Important: to create documents in a particular format, the model document must be in the same format (e.g.: .doc)

You can configure this choice by going to “Settings -> Functions -> Type of MS/Word documents used” and selecting the type in the dropdown list. Do not forget to duplicate your choice for the other user groups.

Document categories

This function let you classify the documents by category. The categories needed for the LIMS are:

Model reports: This is the category in which you will place all the documents that are models for certificates or analysis reports.

For example: LIMS models

Combine in report: This is the category in which you will put all the documents to combine with the report (Excel spreadsheets or pictures).

Important: The category name must not contain any spaces, dashes, or special characters as it is used as a signet in MS Word and Word does not allow these characters in signets. Exception: the “underscore” (_) is allowed.

Example: ForReport or For_Report or Report_

Generated documents: This is the category used by the LIMS to automatically store generated reports.
Example: LIMS Certificates

You can create these document categories by going to “Settings -> Mail and documents -> Document categories”.

When you have created your categories, you can configure the following functions:

Settings menu -> Functions -> Document category for LIMS models
Settings menu -> Functions -> Document category to merge in the report
Settings menu -> Functions -> Document category for LIMS-generated documents

Printing language

The document combinations are printed in the customer language. If the field is not translated into the customer language, the site language will be used by default.

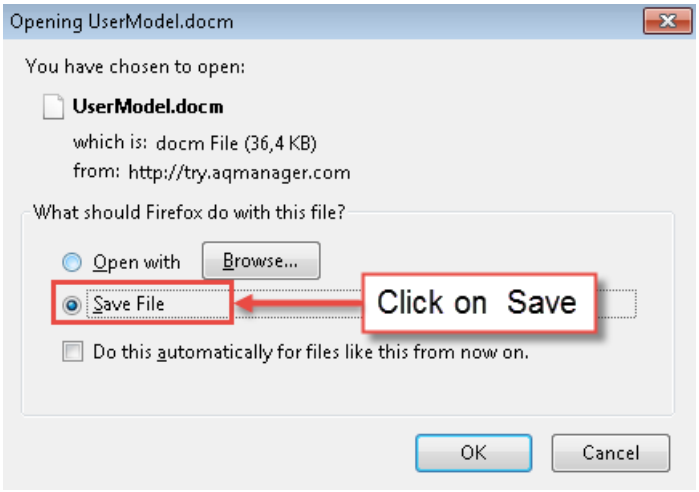
Generate a model Word report

To facilitate the document settings, you have to generate a model document. Below is the procedure to generate one of the three models

1. *Model document for use with MS Word merge fields*

You can generate this document by going to “Analyses ranges Menu -> Analyses reports -> Generate analyses report model”. The following screen is displayed. Click on “save”.

A window also lets you save the model and modify it later. Save it in one of your work files.

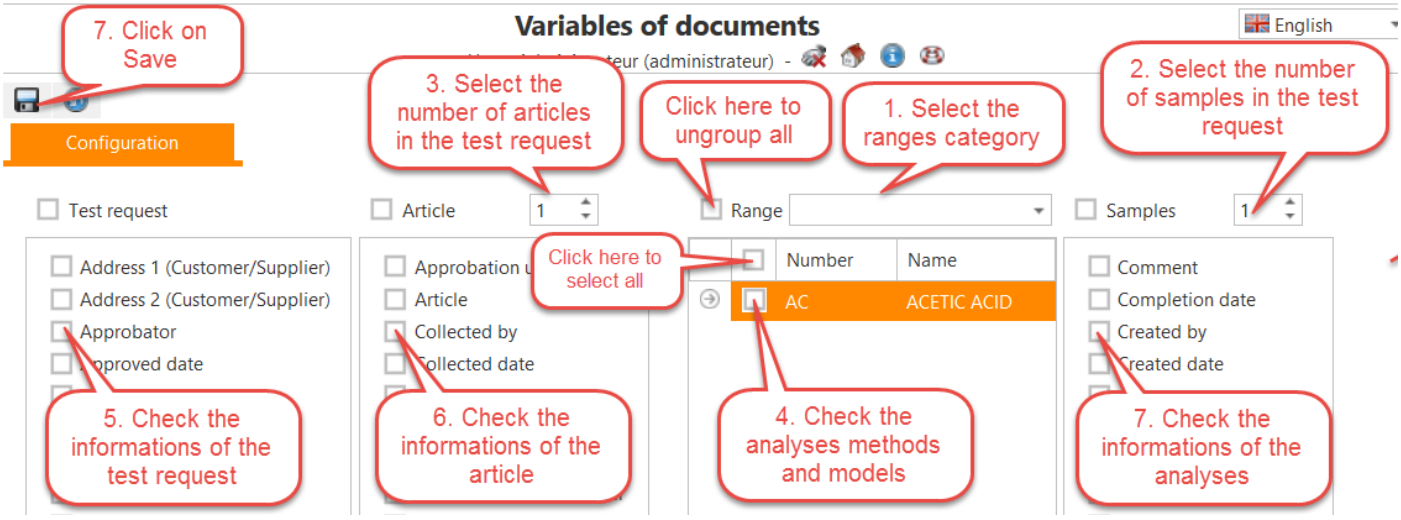


2. *Model document for use with MS Word variables*

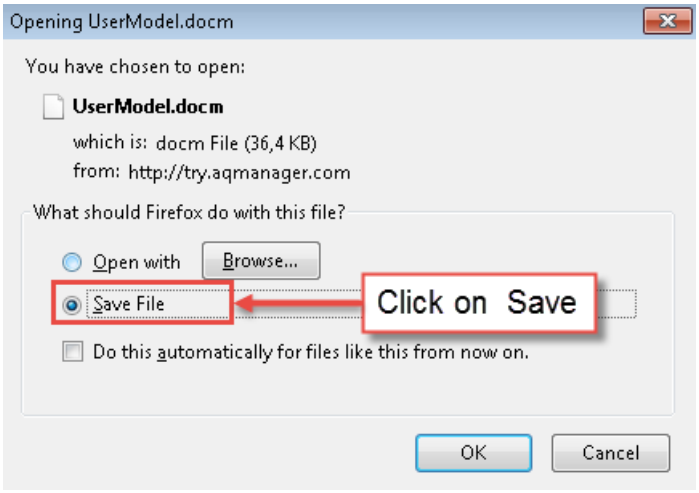
You can generate this document by going to “Analyses ranges Menu -> Analyses reports -> Generate analyses report model”.

When the following window opens, complete the steps and click on “save”.

Only check the merge fields that you need. Checking all of them would slow down the processing time needed to combine the test requests.



A window also lets you save the model and modify it later. Save it in one of your work files.



3. *Model document for use with MS Word merge fields and variables.*

Using method 2 above, this generates both types of documents in a single operation.

Merge fields

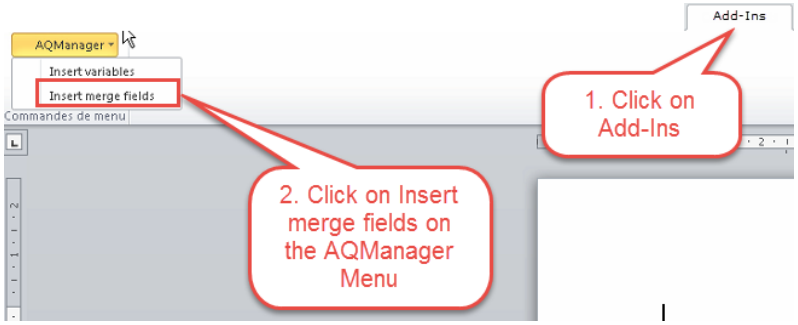
This technique is based on the MS Word mailing feature and uses the standard MS Word merge field.

You can get the list of available merge fields by going to Analyses ranges Menu -> Analyses reports -> Analyses report document.

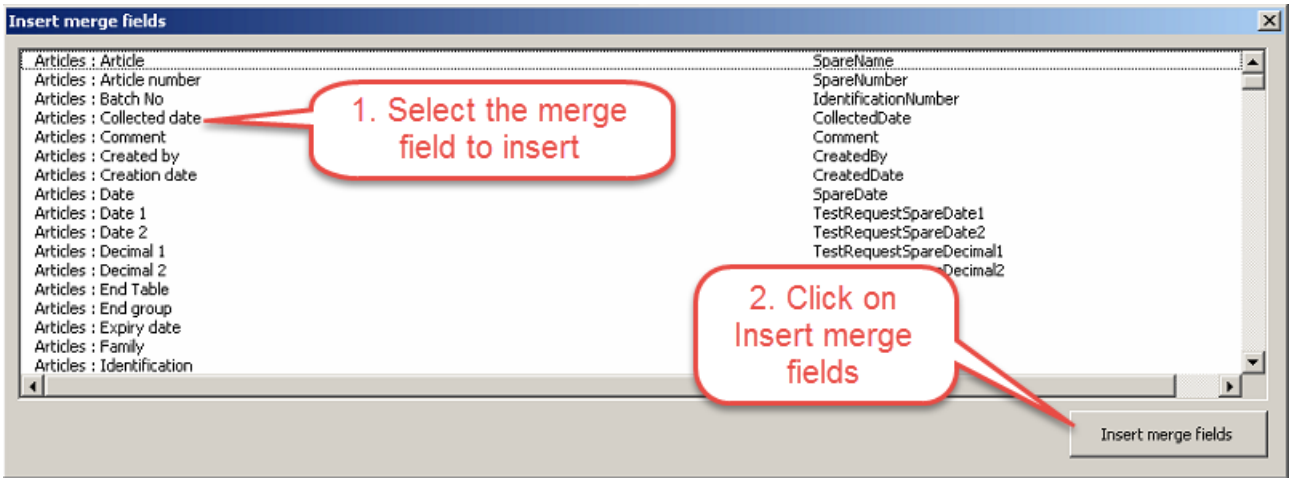
You will have to base your model on a previously-generated document. Modify this document in MS Word.

You will find the list of merge fields in MS Word Documents and Templates.

Important: you will have to authorize macros

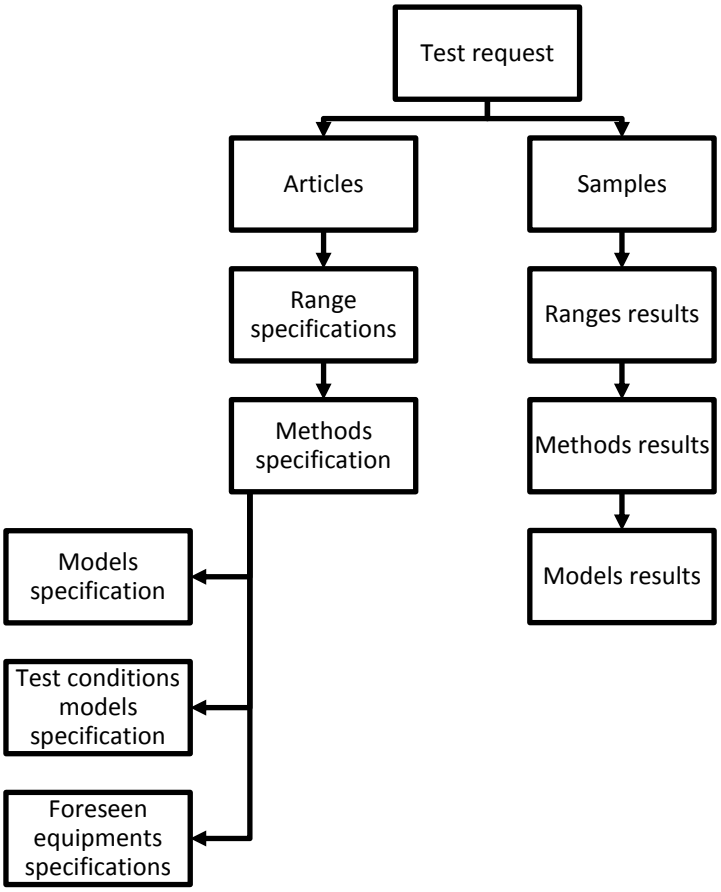


The following window will open, click on “insert merge field” to place the cursor in the document.



Available merge fields

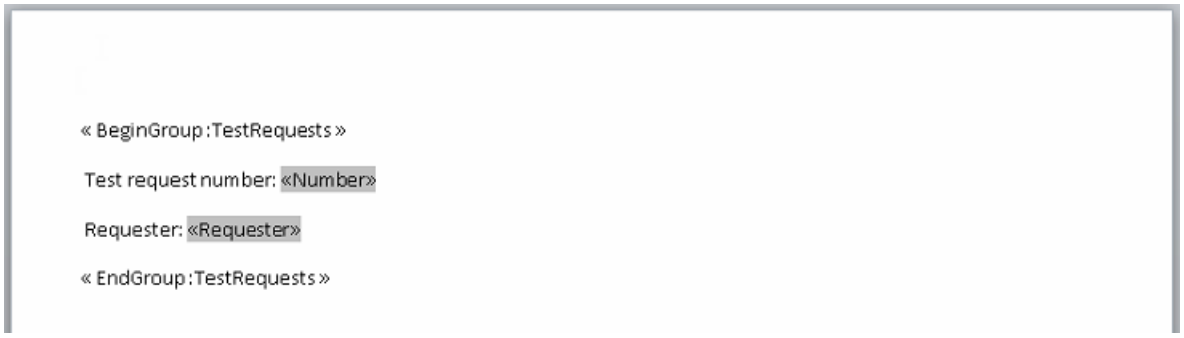
There are 12 available merge fields to create with:



You must always insert a beginning field for the group (BeginGroup:GroupName) before you can insert a data merge field, and the group must always end with an End Group field (EndGroup: GroupName).

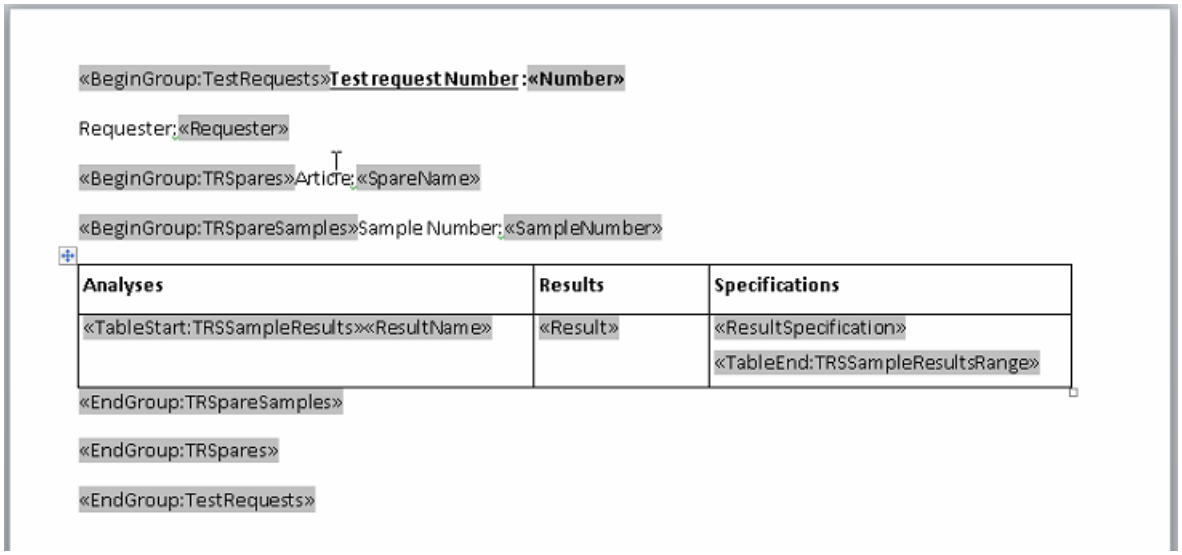
If you wish to create tables, use the Table Start function (TableStart:GroupName) in place of BeginGroup and Table End (TableEnd:NomduGroupe) instead of EndGroup (see example 2)

Example 1: Creating a document containing the requester's name and the test request number



Example 2: Creating a document to display results

Model



Combined document:

Test request Number :TR-2015-00225

Requester: Michael Smith

Article: Acetic acid

Sample Number: SA-2015-01425

Analyses	Results	Specifications
Purity	98%	>99,5%
Concentration	25 mg/m³	> 19 mg/m³ < 40 mg/m³

Document variables

This technique is based on the MS Word document variables.

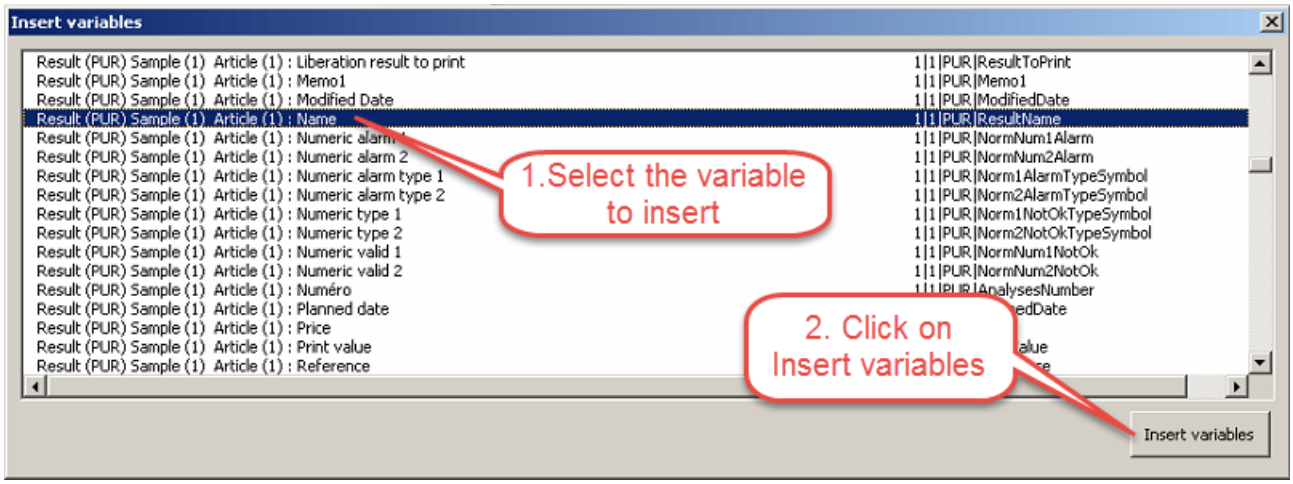
Important: the variables correspond to the Number field in the range methods and models. If you change the numbers the combination will not work.

You need to create a model document containing the variables of the documents needed for the combination (see point 2: Generating a model Word report). When you have created the model, you can modify it using MS Word.

You will find the list of merge fields in MS Word Documents and Templates.

Important: you will have to authorize macros

The following window will open. Click on “insert variables” to place the cursor in the document.



The available variables are the same as those selected in step 2: Generate a model Word report.

Example: a model of certificate created from the inserted variables

Certificate of compliance

Customer: Test request : Customer/Supplier

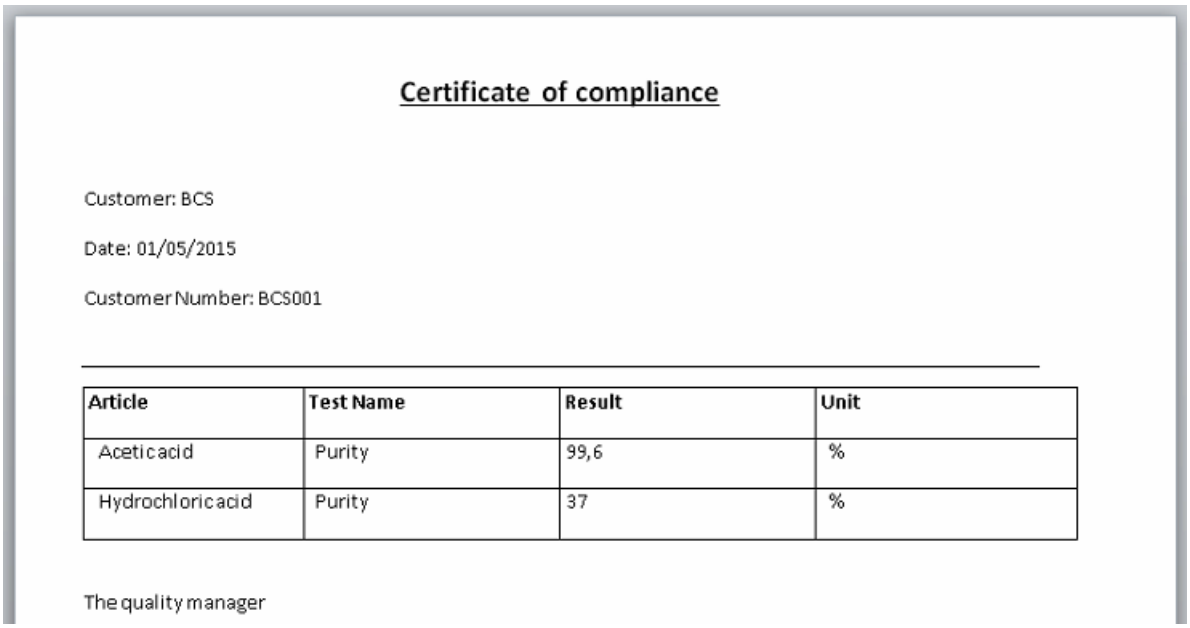
Date: Test request : Request date

Customer Number: Test request : Customer/Supplier Nr

Article	Test Name	Result	Unit
Sample (1) Article (1): Article	Result (PURITY) Sample (1) Article (1): Name	Result (PURITY) Sample (1) Article (1): Result	Result (PURITY) Sample (1) Article (1): Unit
Sample (2) Article (1): Article	Result (PURITY) Sample (2) Article (1): Name	Result (PURITY) Sample (2) Article (1): Result	Result (PURITY) Sample (2) Article (1): Unit

The quality manager

The combined document



Certificate of compliance

Customer: BCS

Date: 01/05/2015

Customer Number: BCS001

Article	Test Name	Result	Unit
Acetic acid	Purity	99,6	%
Hydrochloric acid	Purity	37	%

The quality manager

Important: If you have forgotten any fields and you discover this after having filled in the model, you can generate a new model with all the necessary fields (the first selected + the missing ones) and then copy-paste the layout of the first model to the new model.

Inserting Excel and Word documents, pictures and tables

Inserting Excel and Word documents, images, and tables is based on the MS Word document bookmarks.

Accepted formats for Excel and pictures

Word : .doc and .docx

Excel: .xls and .xlsx (the current version only inserts the first sheet in the file)

Graphics: .gif, .bmp, .tif, .png

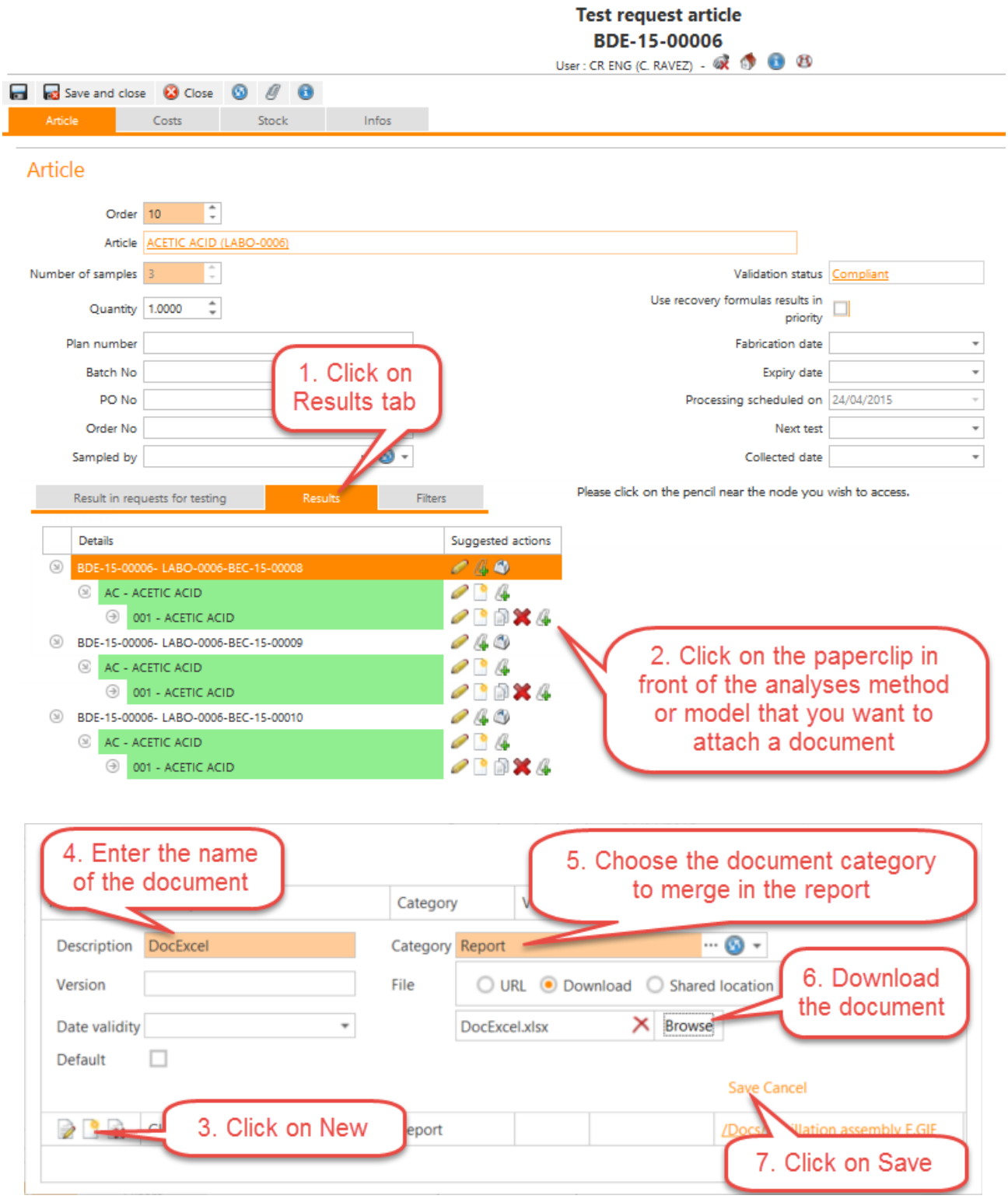
Associating the documents to insert

Use a document category to associate your documents. To do this:

Important: the name of your report category must not be used in the document names, or the combination will not be possible.

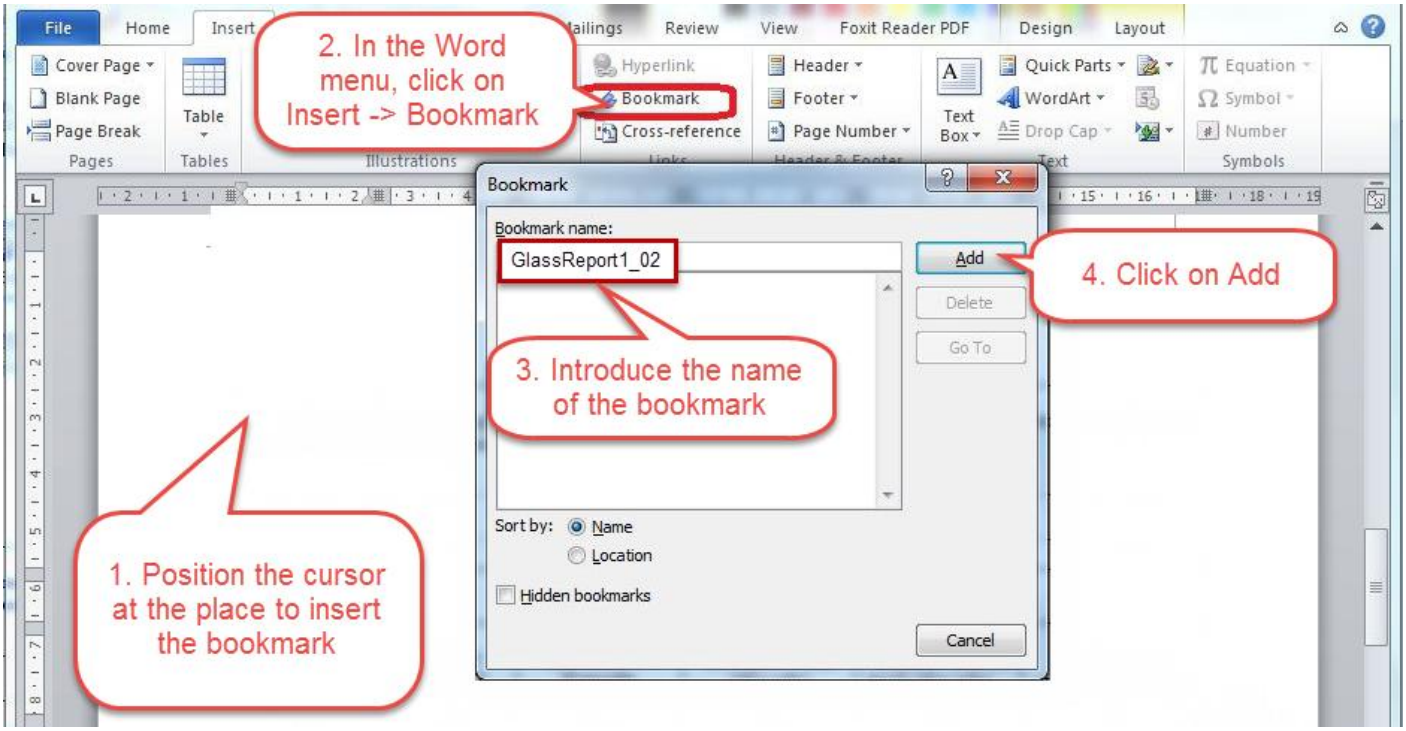
1. Create a category by going to Settings menu -> Mail and documents -> Document categories
2. Define the category by using Settings menu -> Functions -> Document category to merge in the report

The document must be inserted in the test request Results tab, using the attached (see below).



The name of the bookmark to insert in the Word document is: Document category name + Document name (with no space or hyphen).

Example: GlassReport_02

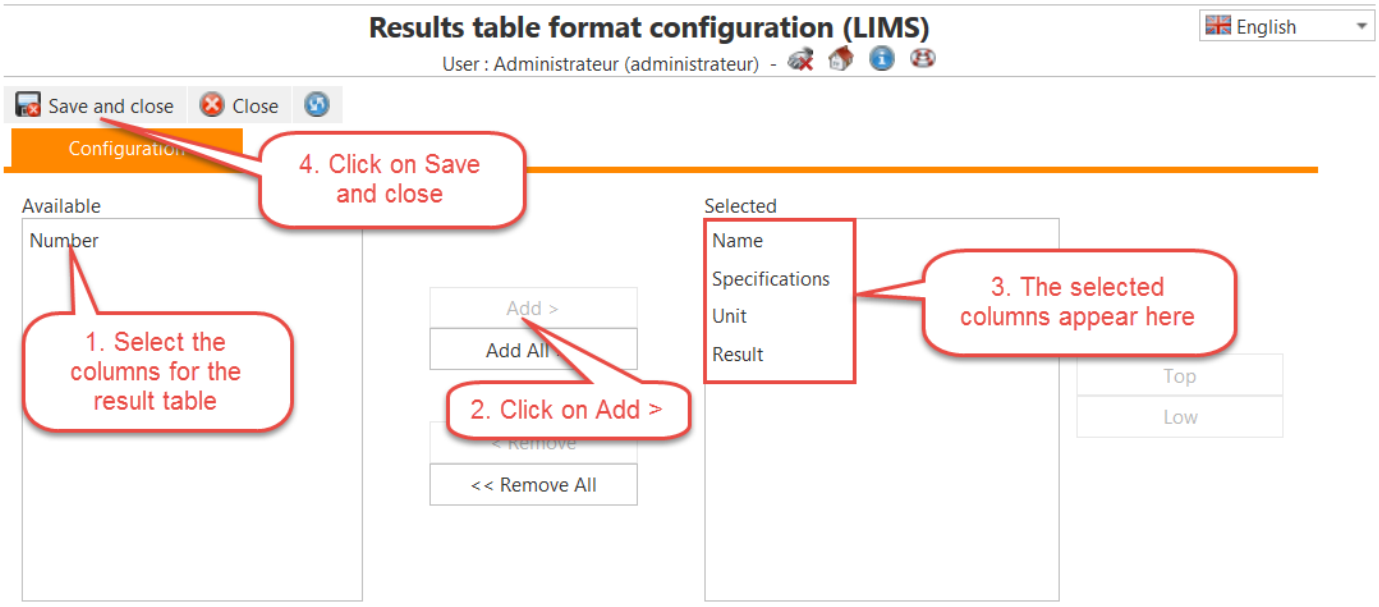


The documents will be combined when the progress report is generated (when moving in the workflow steps from 700 to 800.

Inserting a results table

There is a function that allows you to choose the format for inserting a table displaying the results for the methods and models.

First you need to define the table format in the Results Menu -> Analyses reports Certificate of compliance -> Results table formats. The following screen will open so that you can specify the columns to use in the tab land the order in which they appear.



To insert a table in the Word report, you need to insert a bookmark named TableResult (see previous paragraphs on the preparation of a Word document.)

Inserting Validation and Approval signatures

When moving through the steps of validation and approval, the signatures of the people who validated the step “800.Results validation of the test request” and approved the step “850. Approved test request” are added to the documents attached to the results for the range of the first article.

The signatures are image files associated with the user screen, in the signature field.

The names that will be given to the attached documents are defined in the functions below:

Default name of the validation document containing the signature: Validation

Default name of the approval document containing the signature: Approval

If you have established more than one validating person, the name of the document will be indexed. For example, if two people can validate, the names will be Validation1, Validation2.

If you go backward in any of these steps the associated signatures will be deleted.

To insert signatures in the report, use the MS Word bookmarks as previously described.

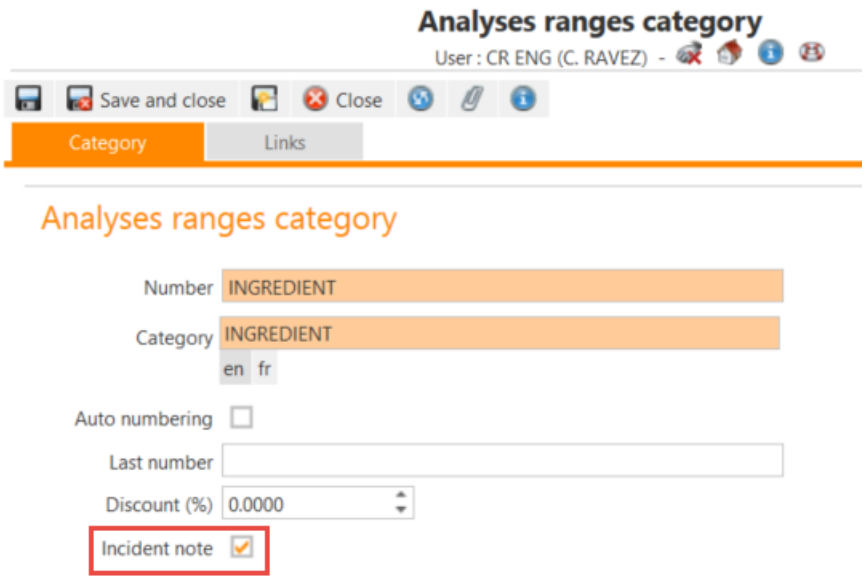
Integrating a model in the ranges

1. The default model document for a range is defined in the range. Add a document in the range of the models category (ex: LIMS Models) and click on the “default” checkbox.
    a. This choice is carried out in the Analyses Ranges Menu -> Analyses -> Analyses Ranges. Attach the document to the desired range and specify the category of models to use (e.g.: LIMS Models) and check the “default” box.

2. You can use the specific document model for an Article/Customer or Article/Supplier combination. For this you need to add a document in the range associated with the article and check the “default” box.
    a. This is done by going to Analyses Ranges Menu -> Articles: Edit selected article
    b. In the sidebar menu of the article edition screen -> Articles analyses ranges : select the range involved
    c. Attach the document to the range you want by specifying the category of models to use (e.g. LIMS Models) and check the “default” box.
3. You can also use a specific document module for a test request. To do so, you must add a document in the models category (e.g. LIMS Model) to the category range and check the “default” box”. Note; this operation can only be carried out on a test request that has not yet been marked “completed”.
    a. This choice can be made in the Analyses Ranges Menu -> Test requests: Edit selected test request.
    b. You can also do this in the sidebar menu in the test request edition screen. Select the article to use to modify the model document.
    c. In the Article tree view, click on the “document” icon in the test range condition screen.
    d. Attach the document to the required range, specify the category of models to use (e.g. LIMS Models) and check the “default” box.
4. The documents generated are automatically numbered in the following format: XXnnnnnn999, with XX being the root number for the test request, nnnnnn being the test request number, and 999 the incremental document number (in case the document is generated more than once.) You can specify the root number for generated documents on the site sheet. To do this, go to Settings Menu -> Sites -> Root number for generated document

Incident notes

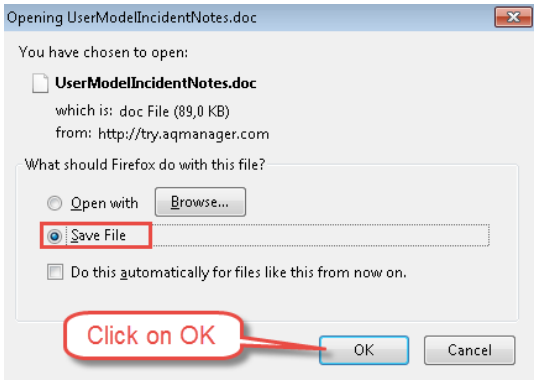
An incident note can be created when entering non-compliant test request results, provided that the analysis range is in a range category in which the “Incident note” box has been checked.



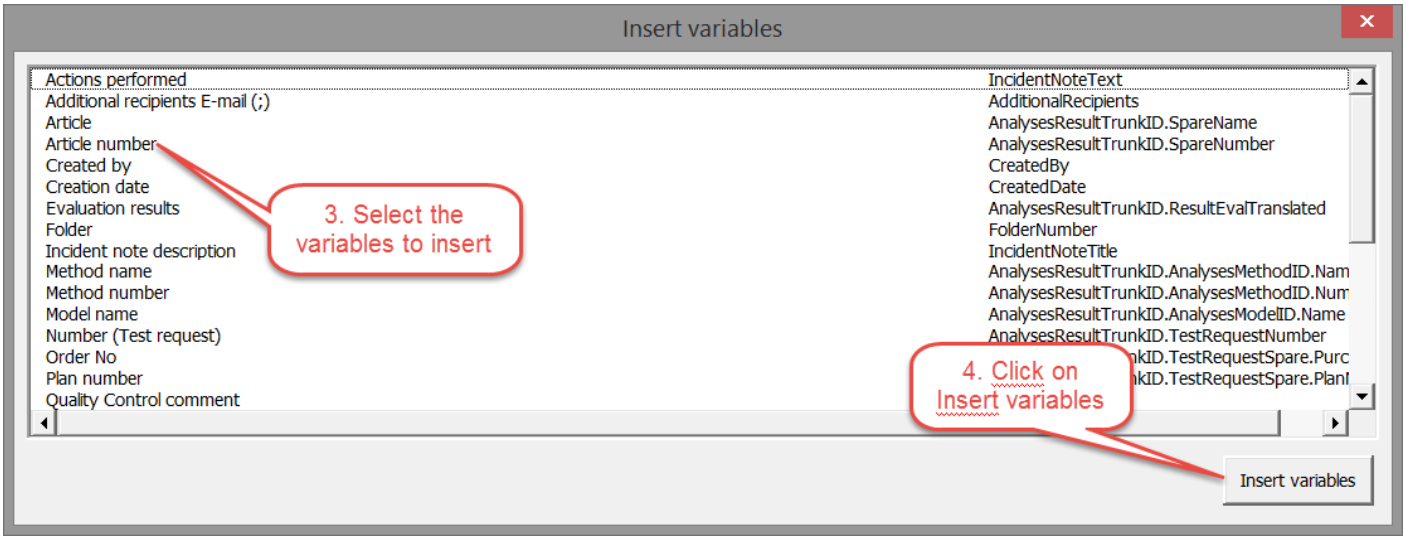
Creating a model Word document for the incident note

In the editing screen, you have several sidebar menus. Click on “Create a model Word document for incident notes” to create the Word model needed to combine data from your incident note entry sheet.

When you click on this link, a screen opens allowing you to create a Word document.



Save it to your desktop and then open it. Depending on your Word security settings, you may have to authorize changes to the document and the use of the AQ Manager template.

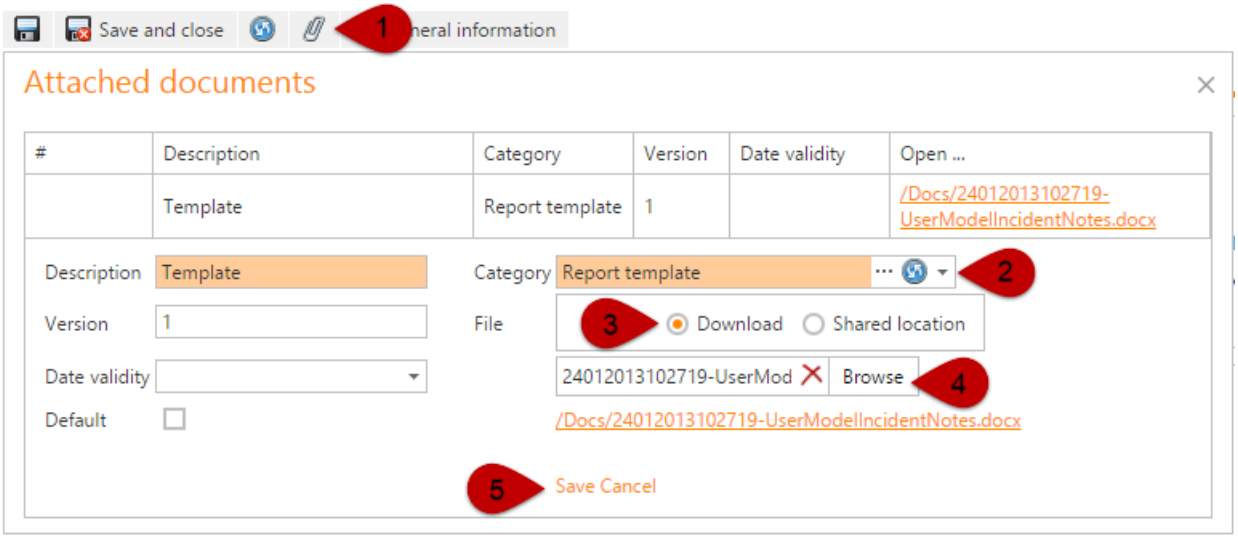


As shown above, the Templates menu in Word lets you access an “AQManager” model that allows you to insert variables (the “fields” and “combine” menus are not necessary here.)

The “insert variables” screen then displays all the relevant data for the incident note. Prepare your document with the layout and content of your choice. Placing the previously-mentioned variables in the right places lets you obtain a dynamic content through the combination method explained hereafter.

Inserting tables, Excel sheets and images is also possible. To do this, follow the steps outlined above.

When you have finished creating your Word model and saved it to your desktop, you can now add it as a model document in the AQ Manager Full Web application. While you are still in the editing screen for the incident note, click on the paperclip in the



toolbar:

The screenshot above illustrates the main steps to follow. Step 2 is particularly important. You must not choose juts any document category. You have to use the category you created in the application’s “Document category for LIMS models” function.

IMPORTANT: Use this category for only one attachment to the incident note - the combined model!

Use a default model for all new incident notes.

If you want to use a common model for all your notes, add it to the application’s App_Data folder. The model must obligatorily be called “UserModelIncidentNotes.doc” or "UserModelIncidentNotes.docm" depending on the “Type of MS/Word documents used” settings. If you have associated a specific model to your incident note using the steps provided above, this will be the model used in priority.

Quality management address

The edition screen for an incident note has a “Contacts” panel in which there is a “Quality manager address” dropdown list.

Source settings

This list displays all the available users via the group filter.

If you want to filter in more detail, see the chapters on “filters”.

Functional role

The user designated in this list in step 100 of the workflow is the only one who can input or modify data in the “Quality decision” zone at the bottom of the form, when step 200 has been reached.

Test the merge model

In the editing screen for the incident note, there are several sidebar menus. Click on “Generate an incident note” to test the combination for the model Word document created in the previous steps.

When you click on this link, a window opens letting you open or save a Word document. This results from the combination of the data in the incident note with your model. The latter is not saved in your database, but lets you add any changes you need to the pre-prepared model before sending it to be validated (step 200 of the workflow).

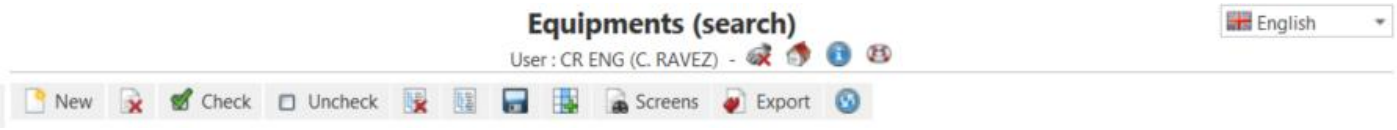
PART 6: SETTINGS AND USER RIGHTS

AQ Manager Full Web offers many possibilities to define settings and user rights. Thus, you can configure screen layouts, access to functions, reports, statistics modules…

Most of the settings possibilities are available in the Workflow settings menu.

CHAPTER 1 / Screens

To configure screen layout, you have find the name. This is found at the top of the various screens in the application (see below).



To configure the rights and layout of this screen, click on the “Screens” link in the Workflow Settings menu. Then simply create a filter for the screen name and double-click on the line corresponding to the Screen / User Group pair for which the settings are to be configured.

(Note: The “Screen / No group” setting gives you a default setting for all the groups.)

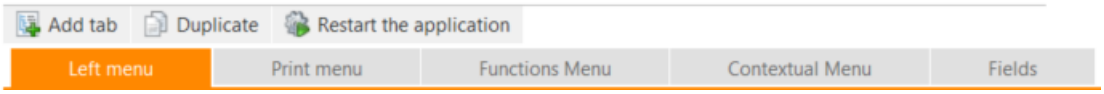
Settings can be configured in the following ways:

Accessibility

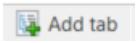
The first settings level is to define the level of data access for the selected screen. The upper part of the screen lets the user define if the user group can access the screen. If yes, can they add, modify or delete data?

Screen menu settings

The second settings level lets the user configure the content for the sidebar menus and More info, as well as the print screens and the select screen function. For these four menus, the logic of configuration is the same as that for sidebar menus (see below).

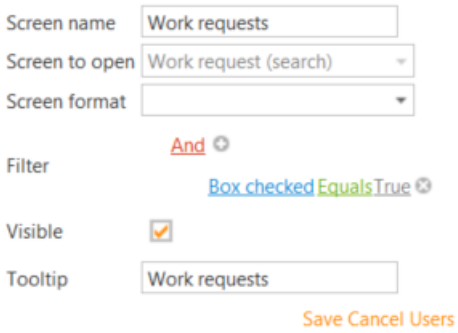


Sidebar menu

To create a new branch in a menu, first click on . 

Then to add sub menus below this branch, click on one of the following:  . These buttons allow you, in the following order, to add a screen, a report, a function or a link to a page.

Then you can configure the settings for the content, like this:



First, you can enter the link as it appears in the menu.

The next field lets you choose the screen, the report or the function to associate with the menu link.

The checkboxes allow you to choose in which menu the link will appear. The Menu is the sidebar menu to the left of the screen. The More info menu is the tree view menu which is by default on the right of the screen, but which can be moved to any place on the screen.

Depending on the links, it is possible to set up filters for the data to display when you click on the link (e.g. Work Order in progress, Equipment in poor condition, …). To do this, click on the "+" button.

The last field lets the user customize the text in the information hovercard that will appear when the cursor is placed on the link.

Finally, a simple click on "Save" validates the new link. These links can be customized by the user.

Fields tab

This tab lets you define the visibility level for the fields in the screen. For example, you can make it obligatory to fill in a field, hide it or place it in read-only mode. You can also change the background and text colors. Finally, for some fields, you can restrict the values to the dropdown list by setting up a filter. (see above paragraph).

CHAPTER 2 / Functions

Configuring the access rights to functions responds to the same the same logic as that explained above in the paragraph on "Accessibility" in chapter 1. The only difference is that it is only possible to define the concept of accessibility to a report for all the Reports-User Groups associations.

CHAPTER 3 / Reports

Configuring the settings for access rights to reports follows the same logic as that explained above in the paragraph on "Accessibility" in chapter 1. The only difference is that it is only possible to define the concept of accessibility to a report for all the Reports-User Groups associations.

CHAPTER 4 / Modules

This screen lets you personalize the modules (histograms, pie charts, dynamic cross tabulations…) in the summary screens and statistics of the AQ Manager Full Web application. These modules can be displayed in the screens (see screen settings above) and the settings for access to these modules by user groups can be defined in the same screen.

CHAPTER 5 / Sites

This screen lets you configure the default AQ Manager Full Web settings for the selected site. It is also in this screen that the Orders, WO, etc. will be numbered, and the maintenance technician, site coordinator, etc. will be defined.

CHAPTER 6 / Groups and users

Groups

This screen lets you create groups of users that correspond to user profiles. In the AQ Manager Full Web application, some groups are already pre-configured.

You can create and / or copy existing groups.

The minimum information to input when creating a group is the number and name of the group.

This screen also allows you to define the default screen/menu that will open when group users log in.

Then all the rights are defined in the screen settings, functions, and module reports described previously.

Users

This screen lets you define the users and their association to defined groups. In fact, the groups are not defined at the user level, but at the group level. Associating a user to a group will cause that user to inherit the rights of the group to which he is associated.

A user is defined by his login and name. He also receives a password. The password can be given for a limited time (or unlimited if the value is “999” days).

A user can also be associated with a service, a team or a department and a qualification.

Finally, this screen also allows you to configure default settings such as WO motives, workflows, etc.

CHAPTER 7 / Filters

This screen lets you restrict access to data in a table for certain user groups (e.g. restrict the equipment list for a production line to a group that needs it…). This will limit the content in the dropdown lists and search screens for the table in question.

To customize the filters, double-click on the search screen from the screen-user group association in question. Then click on the + button, and add the filter criteria.

Finally, and by default in AQ Manager Full Web, all the user groups have an active filter in all the application tables. Indeed, the users never see the deleted records (whose value in the Inactive field is equal to False). Only the members of the “Super Administrator” Group have access to these records in order to reactivate them.