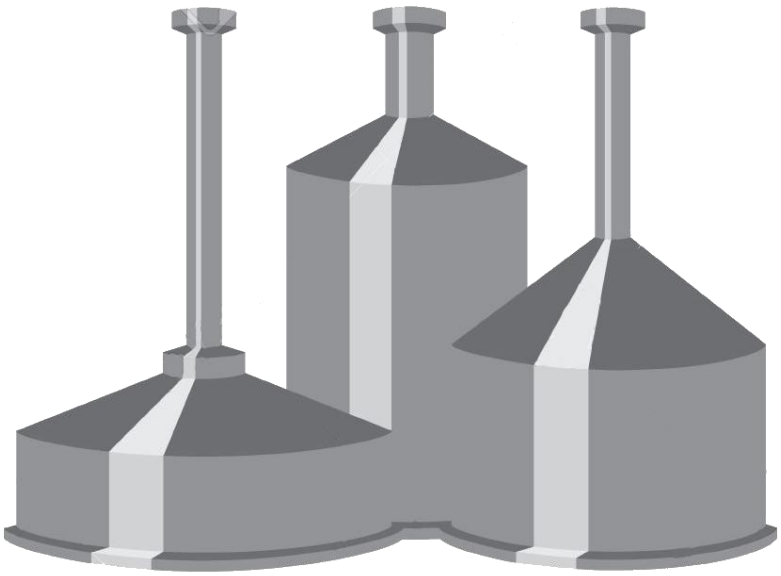
Batch Configurator

Basic Operation



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1 General

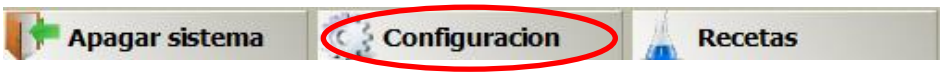
This manual is aimed to assist in the use of the "Batch Configurator", this tool is part of the BatchXpert system, the "Batch Configurator" is the central application to create, delete, and configure the processes and sequences, process-steps, parameters, units and recipes of the processes controlled by the BatchXpert system. This program is an integral part of the BatchXpert system and is installed automatically with the installation of the BatchXpert.

1.1 Design features

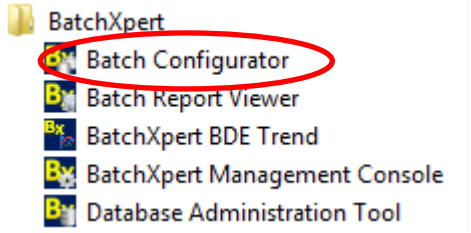
The configuration of Batch of system BatchXpert system has been designed in such a way, that when you create a step you can assign the amount of recipes that is necessary when a step is modified system automatically and updates it to all the recipes that contain that step. If only need to edit a step in particular recipe can be without prejudice to the data of the other recipes.
The data is stored in an SQL database, which greatly simplifies access to data, since SQL is an industry-standard factor.

1.2 Home of the Batch Configurator

To start the tools there are two very simple ways, if you are running the BatchXpert on the PC, on the display there is a menu bar at the bottom, you can click a corresponding icon as shown in the image.

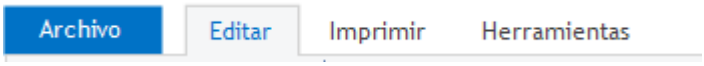


The other way to start this tool is to click on the Windows Start menu, go to all programs, open the folder "BatchXpert" and click on "Batch Configurator", so the tool will start.



1.3 Menu bar

This is the bar main Batch Setup tool since it can change between the different windows that are part of the "Batch Configurator", for this involves clicking on the tab of each configuration, this means that the toolbar will change but get the various Batch data.

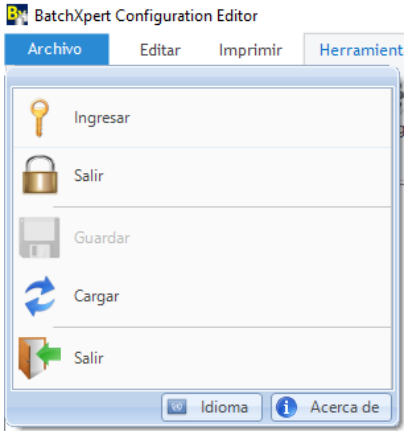


Printable any data this tool only can be use the window “Print", For" setting General of the Batch Configurator there is the "Tools" window and for general information and language change the "file" window can be used.

"The main window by default is the"Edit"qEU contains the overview of all the Batch system, this cannot be changed from the BatchXpert tool.

1.4 File

Here, you can perform various operations.



- **Enter**
  It allows log of an enabled user to manage change in the system.
- **Exit**
  Allows you to log out a user that previously started a session.
- **Save**

It allows to save the settings made in the program.

- **Load**

It updates the tool data.

- **Exit**

Close the Batch Configurator tool.

- **Change language**

Allows you to change the language of the tool, usually the three default languages are English, German and Spanish.

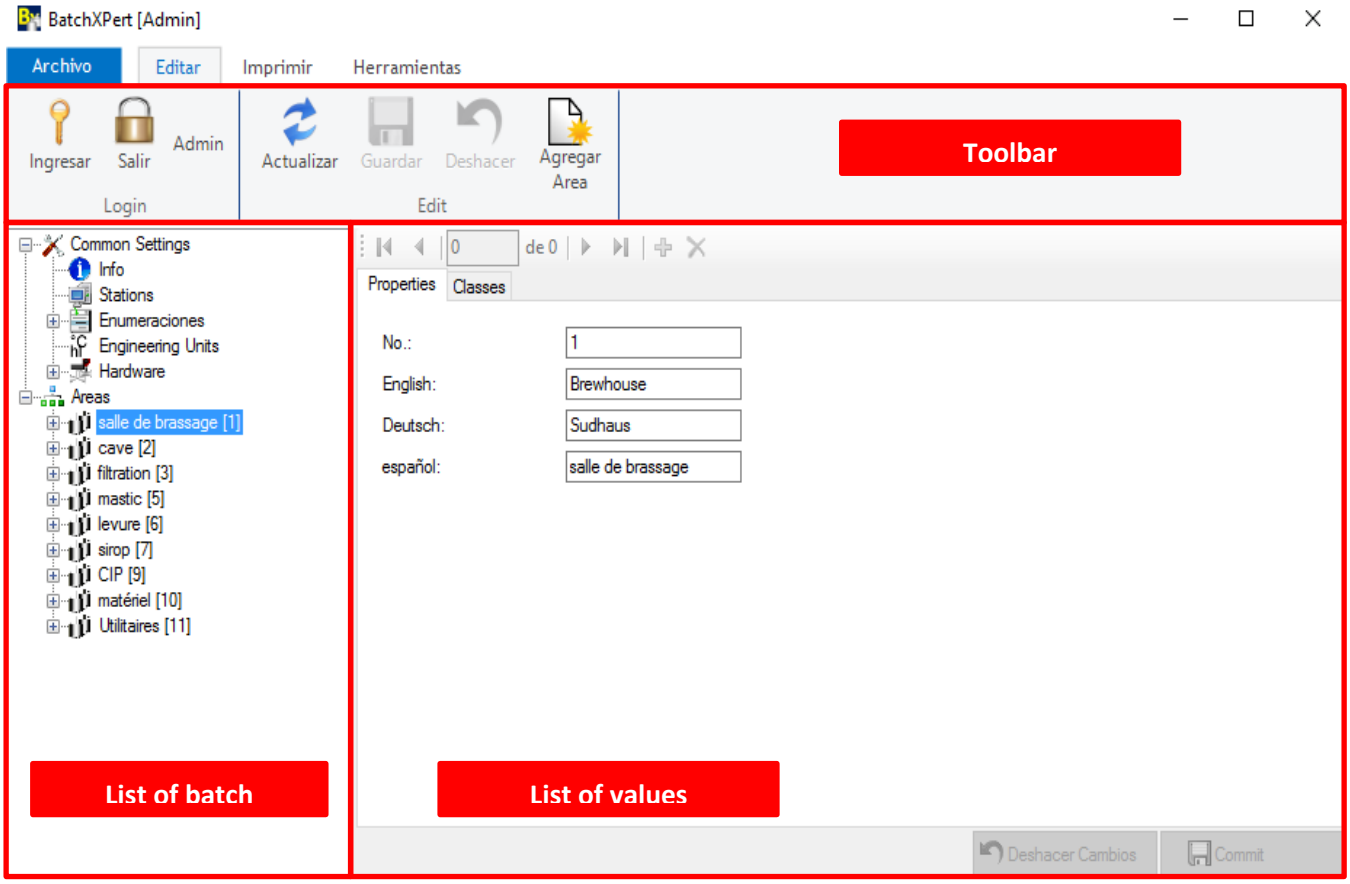
- **About**

It opens a window with the most relevant information of the tool Batch Configurator (Version and tool developers).

2 Edit

The "Batch Viewer Configurator"it is related to the windows that incorporate this tool, the design and the structure of the window, these windows are not modifiable in relation to the design, color and structure. Each window has different information and it is important to know the function of each image to find the corresponding image, avoidloss of time or commit do errors. Immediately after the start tool se opens the "Edit window".

This window is the main of this tool be used for general example.
This window contains all the information for editing.
The content is divided into the following areas, this window is divided into various areasas for the user interface. It is divided into the following areas:



The toolbar contains the applications of Login and logout loginUpdate, Undo, etc., in this way the use of the system configuration becomes easier and faster to use, this bar changes its applications according to the menu selected by the usericons of applications you can hide, change, add or delete on the toolbar, icons of applications are separated by groups according to the use of each application, the icons that are in each window will be explained according to the uso they have in that window.

- With the button "update”

, update the window with the latest information.
- With the button"Enter”

, It allows log of an enabled user to manage change in the system.
- With the button"Exit”

, Allows you to log out a user that previously started a session.
- With the button "save”

, It allows to save the settings made in the program.
- With the "Undo" button

, allows to the last configuration back to the original value before the change.
- With the button "New Area"

You can create a new area the system (process).

In the value list data that contains the Batch list are displayed, and change according to the selection in the Batch list.

According to the selection in the Batch list, in this window you can add, configure and delete data. It is important to not modify an area or a unit since this has a direct relationship with the PLC and can cause conflicts in the next run of the recipe.

We recommend to set only steps or recipe when only necessary and it must be performed by a competent person to make the change in the system, since a mishandling would directly affect the process and product.

3 Common configuration

In this list you can find important information on the project, PLC and more.
It is important to consider that the changes that are possible in this configuration can alter the normal operation of the equipment or may require an additional programming for PLC.

3.1 Info

In this Item you will find the information of the project.
For example you will find the name of the company conducting the project, the name of the project, the date of the project, etc.
Data are generally filled only once at the time of starting up.

Nombre	Valor
Nombre de Cliente	
Nombre de Proyecto	
Numero de Proyecto	
Direccion de Cliente	
Numero de Licencia	
Fecha del Projecto	

3.2 Stations

In this item you will find information of the stations BatchXpert found in your company or that are linked.
The information that there are IP addresses, names of BatchXpert station.
It is recommended not to change the order of masters or slaves, usually only adjusted once these data and will not be necessary to modify them.

ID	Maestro	Nombre	Direccion
1	Master 1	BX01	172.16.41.41
2	Master 2	BX02	172.16.41.42
3	Master 3	BX03	172.16.41.43
4	Master 4	BX04	172.16.41.44

3.3 Enumerations

The enumeration is a list of texts which are used to be assigned to a parameter that does not have a unit of measurement, but are intended to represent a part of the process or a State.

No.	English	Deutsch	español
0	.	.	.
1	On / Off	Ein / Aus	Ligado / Desligado
2	CIP Prerun	CIP Vorlauf	CIP Advanco
3	Start Check	Start Check	Verficar Estado
4	Unit Status	Unit Status	Unit Status
5	presser sensor	Drucksensor	sensor de pression
7	Temperature Sen...	Temperatur Sensor	Senor Temperatura

3.4 Engineering units

Eng. Unit
kg/h
kg/hl
kW
l/h
l/hl
liter
m
m.A.
m/sec
m3/h

This item contains a list of all the engineering units in BatchXpert station, these units can be deleted, edited, and you can include new units.

Such units:

- length)MTS(, cm)
- mass (kg, g, mg)
- Volume (m^3, $cm.^3$)
- …

3.5 Hardware

This Item contains a large part of the periphery of the system, whereas the control elements are manipulated by the system BatchXpert. The BatchXpert system communicates with the PLC by sending all the orders to be carried out according to each recipe is executed and the PLC is responsible for sending the order to each actuator, it is for this reason that to add a new operator, unit, analogue input the programming of the PLC should be operated by a technician. Only you can edit the names of each item in the control.

3.6 PLC

Each BatchXpert station can support a large number of PLC system-bound, is for this reason that there is a list with all the PLC and each PLC contains a list with their own control elements.
A VIPA series CPU is usually sufficient for the control of the processes that are executed at the BatchXpert station. You can find information in the "operator's Manual":

- **Units**
- **Actuator**
- **Digital input**
- **Analog input**
- **…**

4 Batch settings

The Configuration batch defines the structure and relationships of processes that are defined in the injonearía of the project. The configuration is strictly hierarchical According to the standard ISA88 and annexes.

ATTENTION! Usually it is recommended to consult a trained technician to make changes in the configuration of steps/actions and/or parameters, since these generally also require modifications in the system controller (PLC).

Configurations that can be performed without modification of PLC are all related to the recipes of the system.

4.1 Batch (Batch Area) area

A Area Batch defines a Area of production closedwhere they enter the materials raw and leaves a defined product. A Batch (lot) can deal with all the equipment defined in the Area, and contains a Number unique identification that is shared throughout the Area Batch.

The Area Batch define recipes (products) that are running in the Area, which are the same for all equipment defined in it. If a lot is transferred from a Batch area to another, you must create a new batch. The lots within an Area cannot be mixed between them.

Examples of Areas Batch are: cooking room, Filtration, FermentationRoom syrup...

4.2 Class)Class)

A class defines a type of team that can be user by a Batch, within an area. A class defines the sequence and the parameters of the equipment. Each class defines the actions of the computer and thus the functioning of the same.

The settings made in a class will run in units assigned to a class. A class can contain several units, which share the same configuration, but can be run independently. A unit can only be assigned to a class.

4.3 Step

Ustep n defines an action defined, closed that can run in a unit assigned to a class. In each unit only one step can be active at the same time. All the steps are independent among them, allowing flexible them recipes for a class/unit.

4.4 Parameter

Each step can contain parameters that define the adjustable nominal values in the recipes. The parameters are values that are directly related to the process, according to the step to which the parameter is being assigned.
A parameter can be configured as "Final status" or "Alarm status", which affects the visual display of the list of parameters during the execution of a recipe.

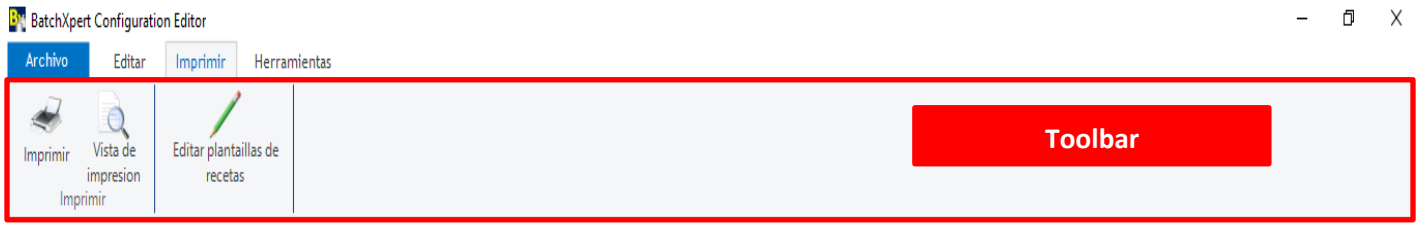
For example for line flushing the water quantity parameter assigns a value for example 10 hl and adjusts the minimum and maximum value that can be assigned, also the unit of engineering, etc... (This value of 10 hl is a default will be taken over by the recipe, but can be modified according to the recipe, but the minimum and maximum values are kept for recipes) and flow parameter is assigned 20 hl/h.

4.5 Recetas

The recipes are the route the system to run at the time of starting a process.
The recipes are created within the same Class/Unity adding the steps previously outlined, but configured according to the need to be assigned to each recipe.
For example in the recipe of filtration, rinse can be to start production and at the end of the production if desired, by changing the values of process for each one separately.

5 Print

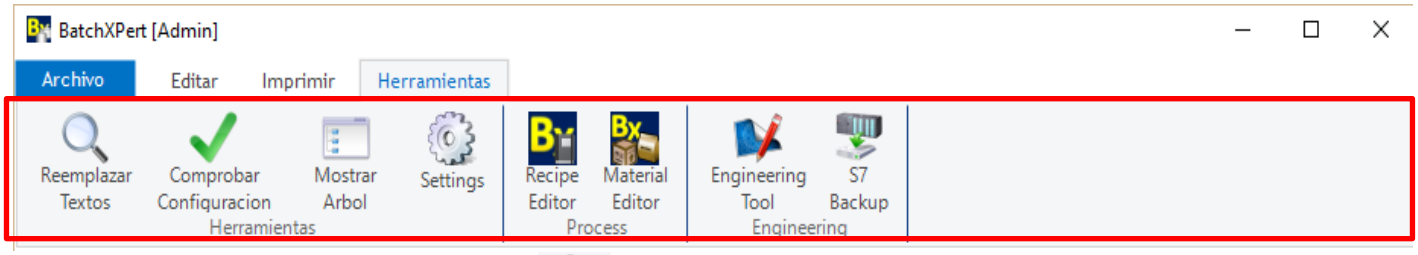
In this window you can print, see a Preview print and edit templates, can be any data selected in the Batch list. It is important not to confuse this impression of the configuration of the Batch as a Batch report, since in the Batch Configurator printing the values that are configured only printed, this impression is performed as a backup of a configuration of an area or important step in case of computer failure.



- With the button "print" , pinvisio printimir According to the list of Batch data.
- With the button "view" , allows visualizar the selection as a ireport o a view prior to printr.
- With the button "Edit templates" , allows Edit the format of the templates.

6 Tools

This window has a relation to configurations that you want to make to the application, as the formatting of text and there is a tool that allows to search and replace text in the Batch list or the list of values.
Also in this window you can open other system tools that are related to this configuration, as the Publisher of recipes, the editor of materials...



- With the button "Replace text"

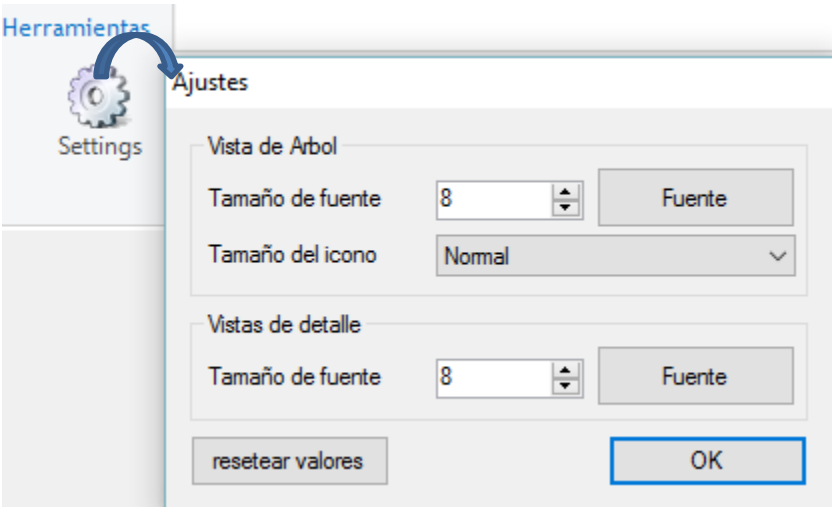
, It allows to replace any text that is within the list Batch or in the list of values.
- With the button "Check settings"

, performs all configuration check to verify if there is an error in the configuration.
- With the button "Show tree"

, Opens a window with the names of all data tree.
- With the button "Settings"

, It opens a window to change the format and size of the data source that contains the tool.
- With the button "Recipe editor"
, You run the Recipe editor tool, this tool allows you to configure system recipes.
- With the button "Material editor"
, Run the tool material editor, this tool allows to configure the system materials.
- With the button "engineering Tool"
, Running the tool that is used for the Engineering, this tool does not come by default with the BatchXpert.
- With the button "S7 Backup"
, You run the tool to make support of the PLC.

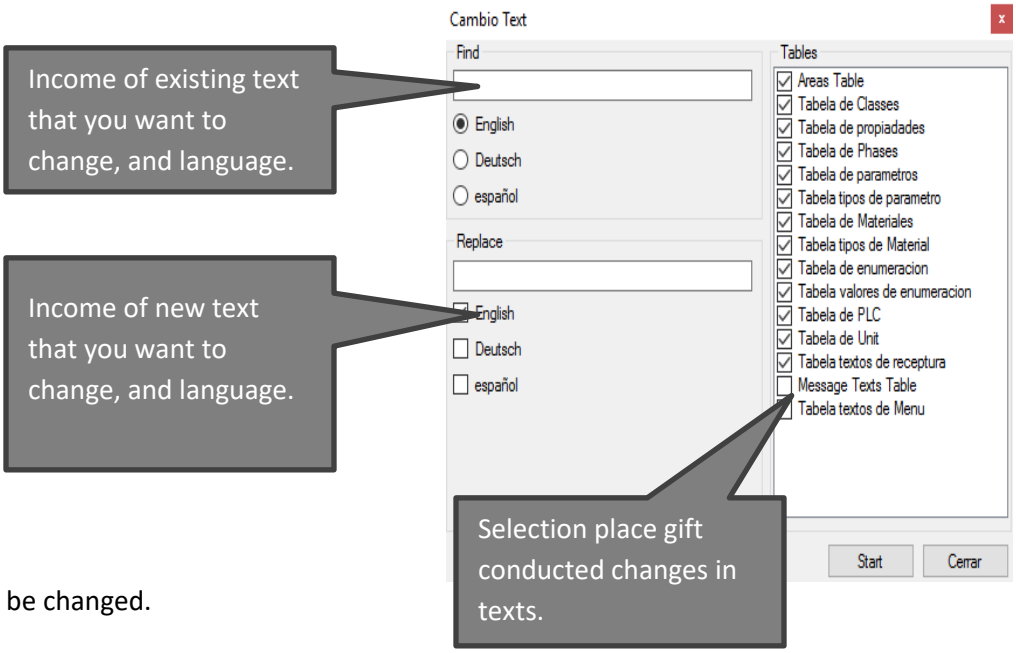
6.1 Settings



The Batch tool Configurator allows you to change the size and style of the font and icons, allowing a visual range fail those who view the size that This by default, a button you have to customize the font in the "Tools" window"Settings"which opens a window where the font sizes in the"Batch list"and the"list of values"can be adjusted separately.

6.2 Replace a text

To replace a considerable amount of texts with the same word, you can use this tool, in which you can select in which parts of the tools name will be changed.



7 Data security

Data containing this tool are important for the operation of the BatchXpert, since this program contains most of the information related to the functioning of the process will be executed. By which a misconfiguration, damage or loss of data can cause serious problems, it is by this that the BatchXpert contains additional tools to protect all data from this tool. Data sregistered on of two tools that meet the function of maintaining integrity of the data, which are the "Database Audit Trial" and the "Database Administration Tool".

7.1 Database Audit Trial

This tool was created to fulfill the function of recording data modifications, creations or elimination in prescriptions, steps, classes, etc recorded the new and old. This means that when you make a change in will be registered with the date, time, value before and after the change.

7.2 Database Administration Tool

In this tool You can backup or restore data from the Bach Configurator, this allows a backup of all settings of the Batch Configurator and this same support can be used to restore data that exists on that support to Batch Configurator.

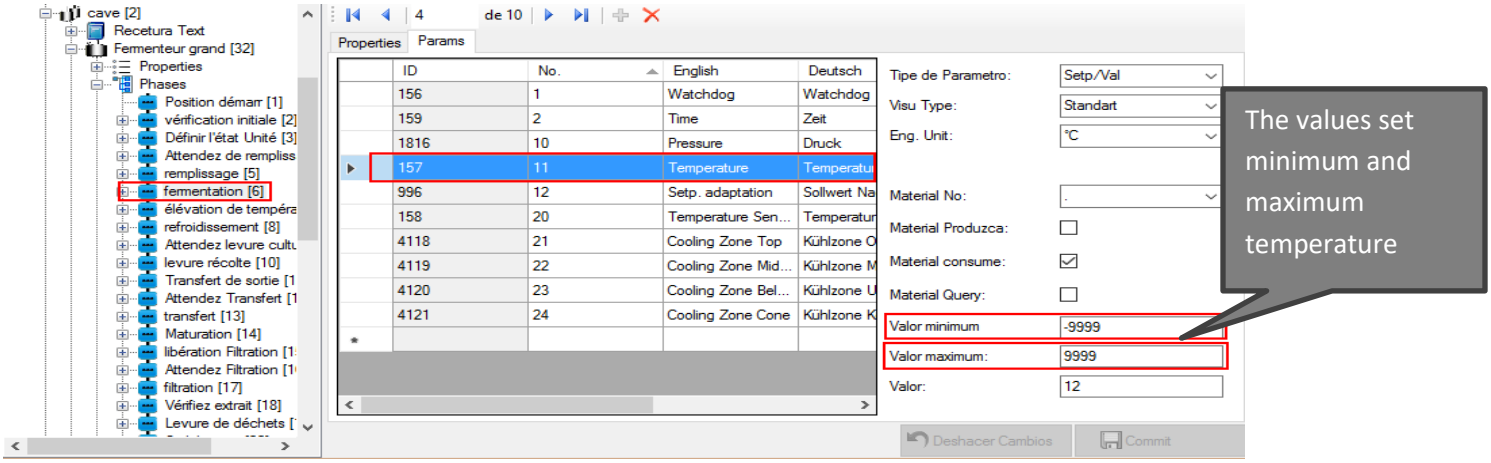
"For more information visit the"Manual "BatchXpert System Backup".

8 Examples

8.1 Configure an existing step

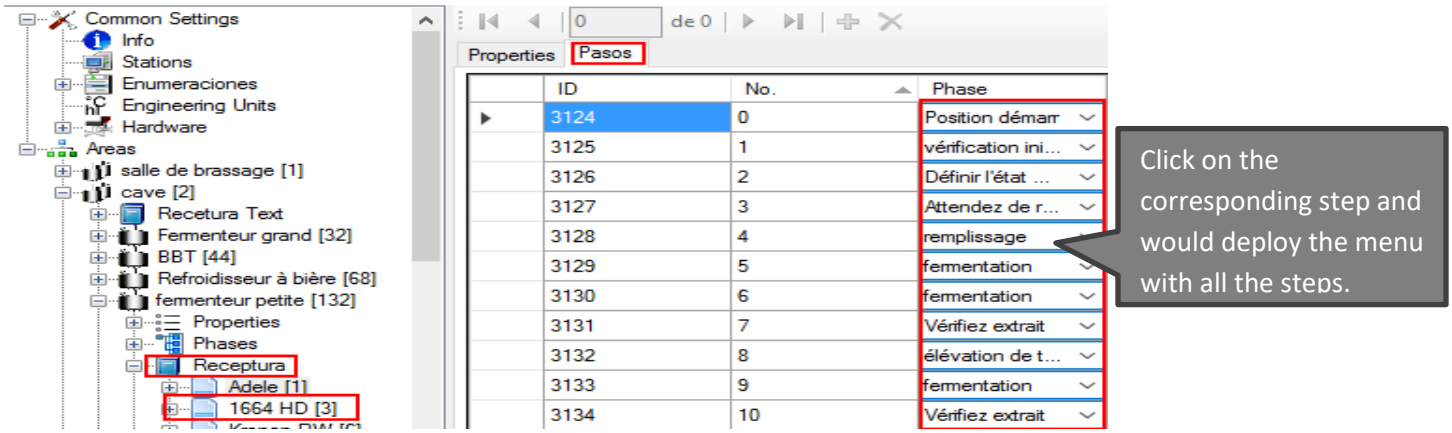
In an existing step you can add or change the values of the parameters, this means that when you make a change to the minimum or maximum values will automatically adjust to all the recipes that contain this step.

For example in a parameter of the temperature of the fermentation step we want to adjust the minimum limits and maximum, for that must go to the corresponding process and adjust them.

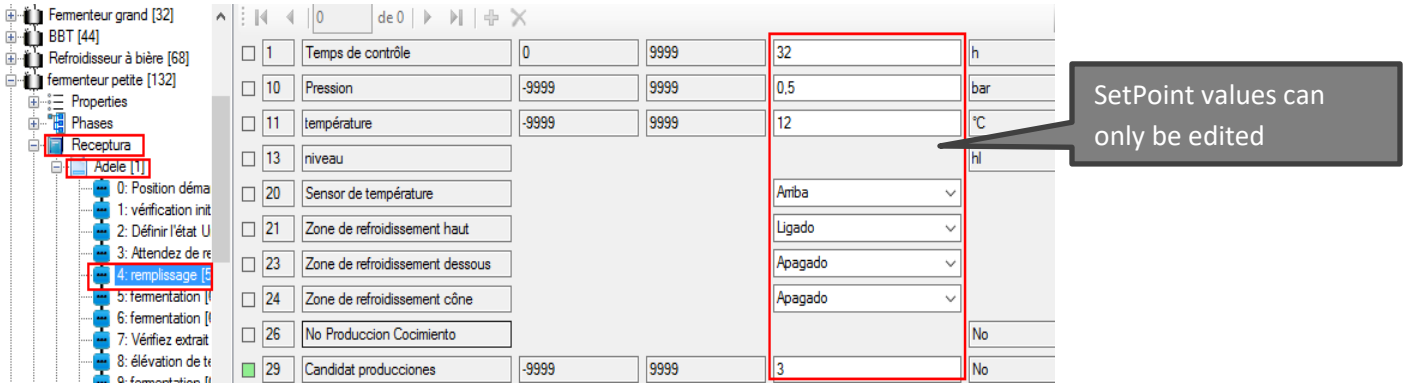


8.2 Configure an existing recipe

To set up a recipe in the Batch not only Configurator are assigned the SetPoint to the parameters, the order of the sequence of steps, you can also change also allows you to add or eliminate steps in the recipe.
Always consider each change should be with a foundation linked to the process.
To change the order of steps or change a step in a recipe, you must enter the process in which you want to modify the recipe, select the corresponding recipe, then select "step".
Then in the column "Phase" you must select the corresponding case according to the order of the sequence to be followed by the process (can be select the same step times be necessary).

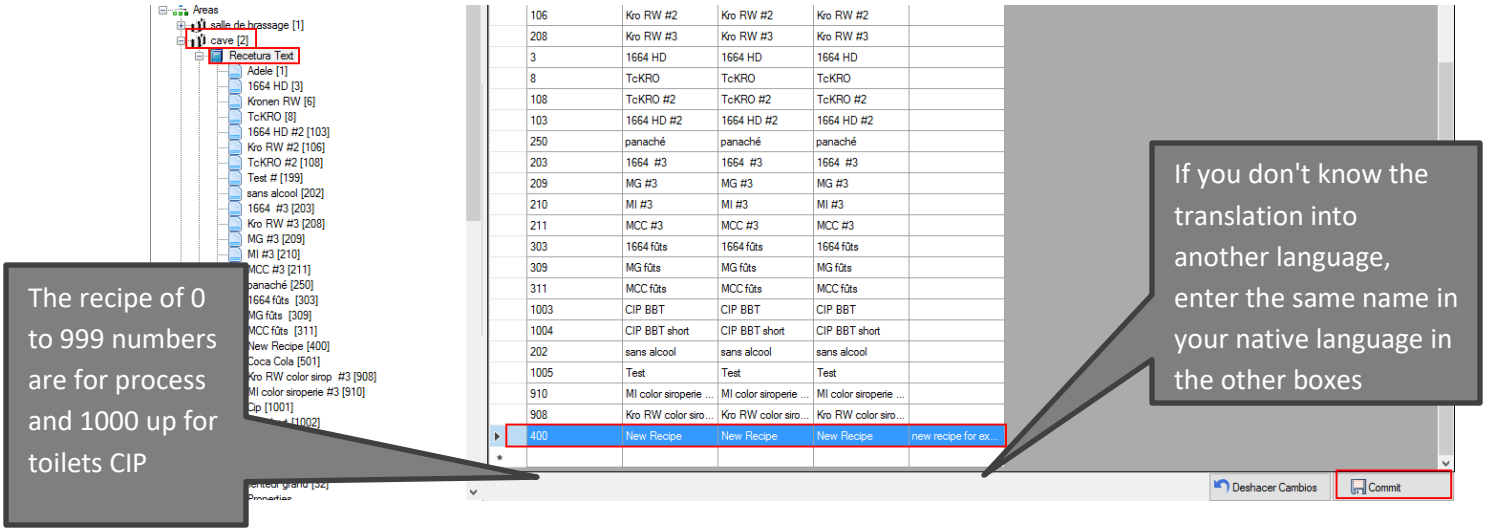


To change a value of the SetPoint for a parameter of the recipe, you must open the corresponding recipe and select the step. (This modification may also be done through the "Recipe Editor" tool).

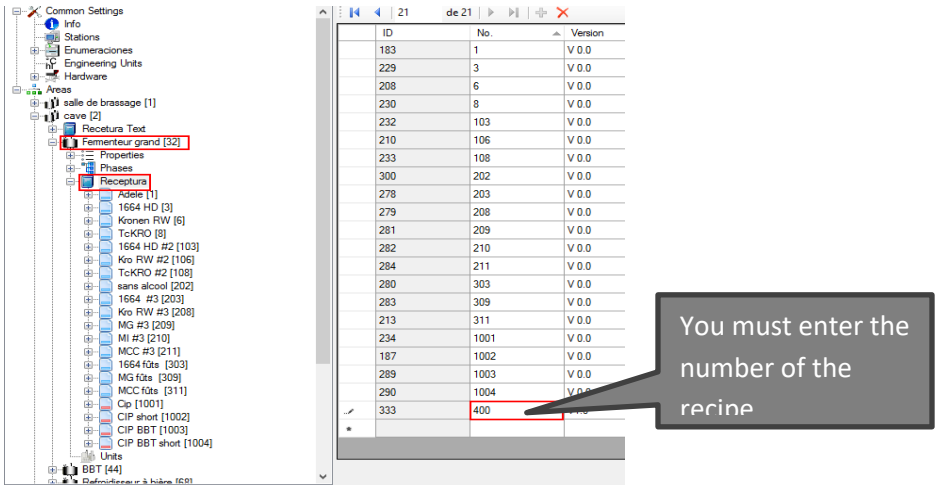


8.3 Create a new recipe

To create a new recipe, first we need to create the namee the new recipe in the section corresponding.



After this we must go to the corresponding process and enter the new recipe.



Luego for the creation of the entry of the recipe is assigning steps to the recipe according to the order of the sequence of the process, then set the values of each parameter SetPoint (Follow the sequence of the item "configure an existing recipe) and with them had completed the creation of a new recipe.