

Manufacturing flow

From the validation of a sales order to the realization of the production

This flow requires the installation of Sales/Stocks/Manufacturing/Supply Chain modules.

The "Production Order Management" option must be activated from the "Manufacturing" application options (in Application config/Apps management).

1- Creation and validation of a sale order

We will start by creating an order of a product requiring a sale supply default method by production (see quick start "Sales flow" for more details on the creation of order).

You can create an order from the Sales module, sale quotation or sales order menu entries.

Choose the customer, and add quotation/order lines. For the realization of this flow, it is necessary that the product has as "Produce" sale supply default method.

You can check and configure this by going to a product form (Sales/Products & Services) in the "Stock" tab. The method of supply must be set to "Produce". This means that if for a sale order there are not enough products in stock, it must be produced.

[EQPT-0002]Pack Classique



Product typology

Type

Product

Product Subtype

Finished product

Is shipping costs product

Sale supply default method

Produce

Standard delay (days)

0

Is pack

In the "Stock" tab, the procurement method can also be set to "Produce". This method is linked to the minimum stock rules and indicates how the product stocks are provisioned. You can also view the current quantity of stock and future quantities.

The screenshot shows the 'Stock' tab for product '[EQPT-0002]Pack Classique'. At the top right, there are two boxes: 'Real qty' with a value of 0 and 'Future qty' with a value of 0. The main area is divided into two columns. The left column, 'Product typology', includes: Type (Product), Product Subtype (Finished product), Is shipping costs product (checkbox), Sale supply default method (Produce), Standard delay (days) (0), and Is pack (checkbox). The right column, 'Categorization', includes: Family (Equipment), Product category (Package), and a 'Package' link. Below this is a navigation bar with tabs: Sale, Purchase/Costs, Accounting, Stock (selected), Production information, Tracking number, Links, and Packaging. Under the 'Stock' tab, there is a 'Procurement settings' section with: Procurement method (Produce), MRP family, Control on Receipt (checkbox), Exclude from MRP (checkbox), and Inventory type. A blue button labeled 'Show all stock move' is at the bottom right of this section.

Once in the sales order line, when you have selected the product, you can check in the "Settings" tab that the procurement mode is "Produce".

The associated bill of material appears below.

The screenshot shows the 'Settings' tab for an 'SO line'. The navigation bar includes: Information, Margin, Delivery, Invoicing follow-up, Project/Task, Analytic distribution, and Settings (selected). The main area shows: Supply method (Produce), Standard delay (days) (0), BoM (Pack Performance), and a blue button labeled 'Customize BOM'. At the bottom right, there are 'Close' and 'OK' buttons.

You must then finalize the order and confirm it with the buttons at the top right.

2- Running a needs calculation

Following one or more sale orders, you can start a requirement calculation from the Stocks application, MRP/Calculation menu entry. Click + to create a new one.

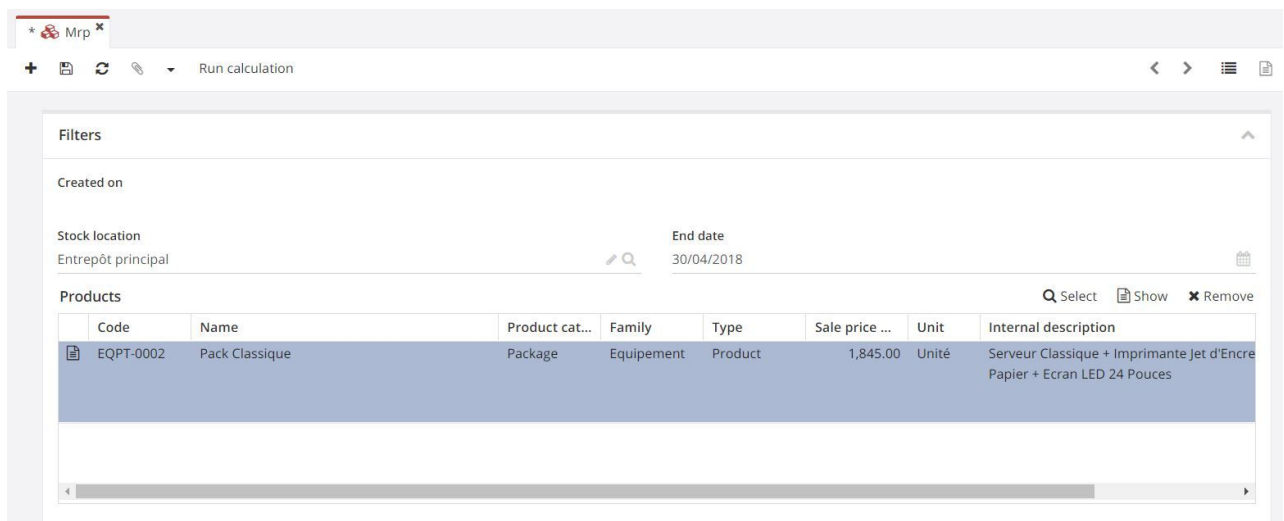
The needs calculation will allow you to know if, relative to current stocks and sales forecasts, you need to order and/or produce certain products/components.

You must first choose the location on which the needs calculation will be performed, and possibly an end date.

Then you must choose on which elements to start the calculation of the needs (products, categories of products, families of product, forecasts ...).

For this example we will include the product of our order line.

Then click on the button "Run calculation" which is in the taskbar.



Once the calculation is launched, you have access to the results.

Type	Qty	Maturity	Cumulative...	Unit	Min qty	Stock locati...	Maximum l...	Related to	
BPF - Besoin / proposition de fabrication	-144.00	21/04/2018	10.00	Unité	10.00	Entrepôt pri...	1	1-2018-04-21	
Product: [EQPT-0002]Pack Classique (7 items)									
STO - Stock disponible	0.00	21/03/2018	0.00	Unité	15.00	Entrepôt pri...	0		
PRF - Proposition d'ordre de fabrication	30.00	21/03/2018	30.00	Unité	15.00	Entrepôt pri...	0	MO00001	
ORF - Ordre de fabrication	3.00	21/03/2018	33.00	Unité	15.00	Entrepôt pri...	0	MO00001	
PRF - Proposition d'ordre de fabrication	30.00	10/04/2018	63.00	Unité	15.00	Entrepôt pri...	0	2-2018-04-10	
VEP - Besoin / vente prévisionnelle	-20.00	10/04/2018	43.00	Unité	15.00	Entrepôt pri...	0	2-2018-04-10	
PRF - Proposition d'ordre de fabrication	72.00	21/04/2018	115.00	Unité	15.00	Entrepôt pri...	0	1-2018-04-21	
VEP - Besoin / vente prévisionnelle	-100.00	21/04/2018	15.00	Unité	15.00	Entrepôt pri...	0	1-2018-04-21	
Product: [EQPT-0004]Serveur classique (12 items)									
STO - Stock disponible	10.00	21/03/2018	10.00	Unité	5.00	Entrepôt pri...	1		
PRF - Proposition d'ordre de fabrication	25.00	21/03/2018	35.00	Unité	5.00	Entrepôt pri...	1	MO00001	
PRF - Proposition d'ordre de fabrication	15.00	21/03/2018	50.00	Unité	5.00	Entrepôt pri...	1	SO00003	
PRF - Proposition d'ordre de fabrication	15.00	21/03/2018	65.00	Unité	5.00	Entrepôt pri...	1	SO00002	
BPF - Besoin / proposition de fabrication	-30.00	21/03/2018	35.00	Unité	5.00	Entrepôt pri...	1	MO00001	
VEN - Besoin / vente ferme	-1.00	21/03/2018	34.00	Unité	5.00	Entrepôt pri...	1	SO00003	

If you do not have enough stock, the system generates manufacturing order proposals that you can view by double clicking on them, and choose to validate or not. The manufacturing needs/proposals concerns the elements to be produced to constitute the main product.

You can validate the proposals one by one by double clicking on each proposal, or validate all at once by clicking on the "Generate all proposals" button in the taskbar.

For a manufacturing order to be proposed by the requirement calculation, the stock rules must be configured correctly (for more information, please consult the documentation).

You can add new stock rules and view the existing ones in Stocks/Configurations/Stock Rules.

Therefore, the replenishment mode must be set to "Manufacturing Order", and a minimum quantity must be set to trigger the production proposal.

Stock location	Use Case				
Entrepôt principal	Used for MRP				
Product	Refill type				
[EQPT-0004]Serveur classique	Production order				
Min. Qty	Define ideal Qty	Ideal Qty	Define max Qty	Max. Qty	Refill Qty
5.00	<input checked="" type="checkbox"/>	5.00	<input checked="" type="checkbox"/>	1,000.00	15.00

3- Generation of a manufacturing order

As we have seen, you can directly generate a manufacturing order from the requirements calculation.

Product [EQPT-0002]Pack Classique	Type PRF - Proposition d'ordre de fabrication
Qty 72.00	Maturity 21/04/2018
Cumulative qty 115.00	Unit Unité
Min qty 15.00	Stock location Entrepôt principal
Maximum level 0	Generate proposal
Origins Sale forecast 1	

Une autre méthode est de se rendre directement dans la commande que nous avons précédemment confirmée. Vous pouvez la retrouver dans le module Ventes, entrée de menu Commandes clients.

Cliquez alors sur « Générer ordre de production ».

Another method is to go directly to the sale order that we previously confirmed. You can find it in the Sales module, in the "Sale Orders" menu entry.

Then click on "Generate production order".

Status	Actions
Draft > Finalize > Order confirmed > Finished > Canceled	Generate customer deliveries
Internal Number SO00012	Generate invoice
Invoicing State Not invoiced	Generate purchase order
Company Axelor	Generate production order
Delivery State Not delivered	
Currency Euro	Info.
Type Normal	Creation date 21/03/2018
Version Number 1	Confirmed by Axelor
Customer information	Confirmation date 21/03/2018
Customer ESL Banking	Order Number Date of shipment
Customer contact	Validity duration 1 mois
	End of validity 21/04/2018

A production order groups one or more manufacturing orders. Unlike the manufacturing order, the production order can be attached to a project.

The screenshot shows a 'Production order' window with the following details:

- Name:** PDO00001
- Priority:** Normal
- Manufacturing orders table:**

MO	Product	Qty	Planned start d...	Planned end da...	Priority	Status	Created by	Created on
MO00003	[EQPT-0001]Pac...	30.00	21/03/2018 17:53	22/03/2018 01:53	10	Planned	Axelor	21/03/2018 17:53

By double clicking on the manufacturing order, you have access to more information :

- The different manufacturing operations,
- The planned dates,
- The stock movements,
- The products consumed,
- The Finished products.

The screenshot shows a detailed view of a manufacturing order with the following information:

- N° OF:** MO00003
- Priorité:** 10
- Société:** Axelor
- Actions:** Démarrer, Annuler
- Process Flow:** Brouillon → Annulé → Planifié → En cours → En pause → Terminé
- Nomenclature:** Pack Performance
- Gamme:** Préparation Pack Perf.
- Sous-traitance:**
- Produit:** [EQPT-0001]Pack Performance
- Qté:** 30.00
- Gérer la consommation par opération:**
- Opérations de fabrication table:**

	Priorité	Intitulé Opérat...	Machine	Date de début	Date de fin	Date de début	Date de fin	État					
	10	Récupération d...	Récup Art. Stock	21/03/2018 17:53	21/03/2018 20:53			Planifié					
	20	Emballage	Emballage	21/03/2018 20:53	22/03/2018 01:53			Planifié					

4- Realization of the stock movements towards the production

Stock movements associated to the manufacturing order have been automatically generated. You can find them in the Stocks application, menu entry "Forecasts/Production needs".

You can also access the stock movements associated with a manufacturing order directly from it, in the "Stock moves" tab.

Ref.	Emplacement sourc...	To stock location	Estimated date	Move date	Company	Status		
DO0010	Entrepôt principal	Production	21/03/2018		Axelor	Planned		

Ref.	Emplacement sourc...	To stock location	Estimated date	Move date	Company	Status		
RO0008	Production	Entrepôt principal	22/03/2018		Axelor	Planned		

The stock moves are realized when the production starts. If the "Manage consumed products on operations" box is checked, or if the consumption per operation is activated on the production process, all the products necessary for the production will not be sent at the same time to the production. They will be sent to production at the beginning of each operation according to the needs.

Stock move

Draft **Planned** ▼

Outgoing move **Realize** **Cancel**

DO0010

Outgoing move information

Partner	Company	
Name	Axelor	
DO0010		
Emplacement source	To stock location	
Entrepôt principal	Production	
Estimated date	Move date	Manage BackOrder
21/03/2018		<input checked="" type="checkbox"/>
To address	Total W.T.	37740.00

Outgoing move lines

Title	Product	Expected Q...	Real Qty	Unit price	Unit
-------	---------	---------------	----------	------------	------

Close OK

5- Realization of the production

To start the production, go to the manufacturing (or production) order in the Manufacturing/ Manufacturing Orders menu.

The manufacturing order lists the different manufacturing operations, which have been defined by the product production process (refer to the documentation for more information).

Manufacturing order ✕

+ Reports ▼

MO MO00003 Priority 10 Company Axelor

Draft Canceled **Planned** In progress Standby Finished

Actions **Start** **Cancel**

BoM Production process Outsourcing

Pack Performance Préparation Pack Perf.

Product [EQPT-0001]Pack Performance Qty 30.00

Manage consumed products on operations?

Operation orders Dates Stock moves Consumed products Finished products

Operation orders

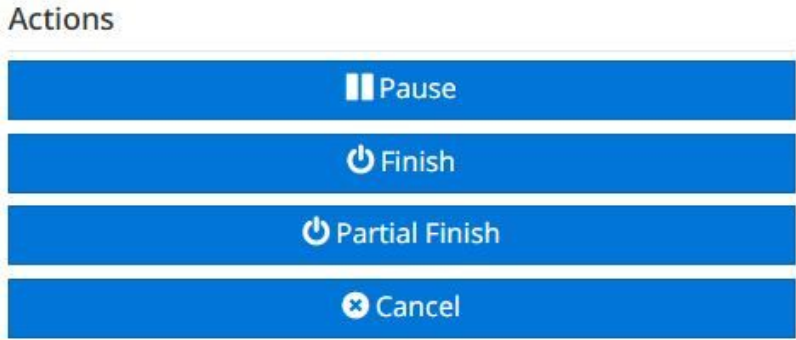
Priority	Operation nam...	Machine	Start date	End date	Start date	End date	Status
10	Récupération d...	Récup Art. Stock	21/03/2018 17:53	21/03/2018 20:53			Planned
20	Emballage	Emballage	21/03/2018 20:53	22/03/2018 01:53			Planned

Note that you can invoice this manufacturing order if necessary, in the context of business project management in particular. The manufacturing order should be linked to production order, which will be attached to a business project.

Click on the "Start" button when production starts. You can pause it at any time. You can also start manufacturing operations one by one by clicking on the pictogram of the arrow.

Priority	Operation nam...	Machine	Start date	End date	Start date	End date	Status						
10	Récupération d...	Récup Art. Stock	21/03/2018 17:53	21/03/2018 20:53	21/03/2018 18:31		In progress						
20	Emballage	Emballage	21/03/2018 20:53	22/03/2018 01:53			Planned						

Click on "Finish" to end the production. The manufacturing order will be finished automatically if every manufacturing operations are marked as done.



You then have access to a summary of the products actually consumed ("Consumed products" tab.), and the system will indicate if there is any difference between the quantity of products to consume and the quantity of consumed products.

Consumed products

Product	Consumed quantity	Unit price	Unit	Tracking Nbr.	Status
[CONS-0002]Set visserie	2.00	4.00	Unité		Realized
[CONS-0001]Set connectiq...	2.00	18.00	Unité		Realized
[COMP-0010]Alimentation	2.00	36.00	Unité		Realized
[COMP-0008]Carte mère c...	2.00	135.00	Unité		Realized
[COMP-0006]Mémoire 8 G...	8.00	72.00	Unité		Realized
[COMP-0005]Boîtier Rack	2.00	63.00	Unité		Realized
[COMP-0003]Processeur 4...	2.00	162.00	Unité		Realized
[COMP-0001]Disque dur S...	4.00	54.00	Unité		Realized

Difference

Product	Qty	Unit

An output stock movement is also automatically performed, from production to the main warehouse ("Stock Moves" tab).

Operation orders | Dates | **Stock moves** | Consumed products | Finished products | Cost

Moves In/Out

Stock moves in

Ref.	Emplacement sourc...	To stock location	Estimated date	Move date	Company	Status
DO0011	Entrepôt principal	Production	21/03/2018	21/03/2018	Axelor	Realized

Stock moves out

Ref.	Emplacement sourc...	To stock location	Estimated date	Move date	Company	Status
RO0009	Production	Entrepôt principal	21/03/2018	21/03/2018	Axelor	Realized

Production waste

Waste stock move

Generate waste stock move

You can view it by clicking on it.

