



FRANCE  
CONSEIL ÉLEVAGE



***User`Manual***

***Ori-Collector  
With  
Robot Boumatic Robotics  
MRS1***

***Version 1.00***



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## 1. INTRODUCTION

### 1.1. Information About This User Manual:

The manufacturer reserves the right to modify the manufacturing of the Ori-Collector in the case of improvement.

All reproductions, translations or copies require the manufacturer's consent.

This manual shall always be within reach of the Ori-Collector's user.

### 1.2. Manufacturer's Address:

#### **SAYCA S.L.**

C/ Rumania Nº 5 Nave D-15. Poligono Industrial Inbisa Alcala I

28802 - Alcalà de Henares, Madrid (Spain)

Tfno.: (0034) 645811182

### 1.3. Sales and After-Sales Service:

Sales and after-sales service is provided by:

#### **COMATEL**

Maison du lait

42 rue de Chateaudun

75009 Paris (France)

## 2. SAFETY

### 2.1. The User's Responsibility:

The design and realization of the Ori-Collector took into account the risk of danger in accordance with the appropriate standards, we guarantee complete security. This security can only be achieved by the user in accordance with the safety instructions.

It is the responsibility of the user to ensure that the following measures are implemented:

- All persons who use the Ori-Collector must have read the manual.
- Users of the Ori-Collector shall always have access to the manual.
- Safety instructions shall always be adhered to.
- The product can only be used within the environment described.
- Safety devices should be checked regularly.
- Maintenance shall only be carried out by qualified personnel.
- Safety symbols, labels and stickers on the Ori-Collector should be replaced if lost or illegible.
- Untrained personnel cannot use the Ori-Collector. Prior training should always be provided.

## 2.2. Safety Symbol:



Any use of the Ori-Collector must be performed under maximum safety conditions. The warning sign alerts the user of potential hazards s/he may encounter.

## 2.3. Safety Instructions:

- Prior to any utilization or maintenance operation, please refer to the user manual for the Ori-Collector.
- Ensure compliance with safety measures when using the Ori-Collector.
- Do not open or disassemble the Ori-Collector during use.
- Safety devices must remain in place.

## 3. DESCRIPTION OF THE ORI-COLLECTOR

### 3.1. Functions of the Ori-Collector:

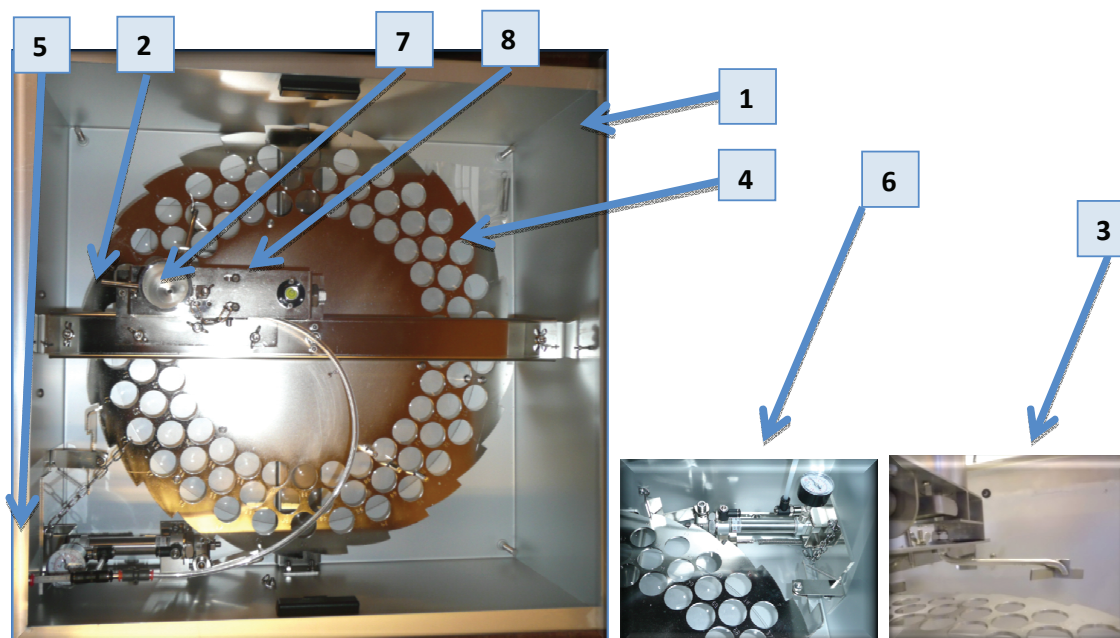
The Ori-Collector allows you to retrieve a sample of milk for each cow that is milked by means of a milking Robot Boumatic Robotics MRS1.

The System provides 3 functions:

1. The transport of milk from the point of collection of the milking robot;
2. Filling a calibrated milk sample;
3. The movement of the turntable that contains 90 samples.

### 3.2. Description of Components:

**Figure 1 :** Main parts of the Ori-Collector



|   |                                    |   |                                 |
|---|------------------------------------|---|---------------------------------|
| 1 | Protection Case                    | 5 | Compressed Air Hose             |
| 2 | Milk Intake Point                  | 6 | Cylinder For Rotating The Crown |
| 3 | Filling Nozzle                     | 7 | Buffer Vesse For The Milk       |
| 4 | Drive Crown and 90 Bottles Support | 8 | Filling Activating Cylinder     |

The Ori-Collector sampler is a rotating system in which the set of samples is in motion, in order to maintain the filling system fixed.

Its main parts are presented in Figure 1.

The system (1) is easily transportable, and must be supplied with compressed air (5).

It consists of a double crown (4), the upper part in stainless steel, the bottles, and the lower part in PVC which serves as a support.

The upper part is crenellated, allowing it to move by means of a pneumatic cylinder (6).

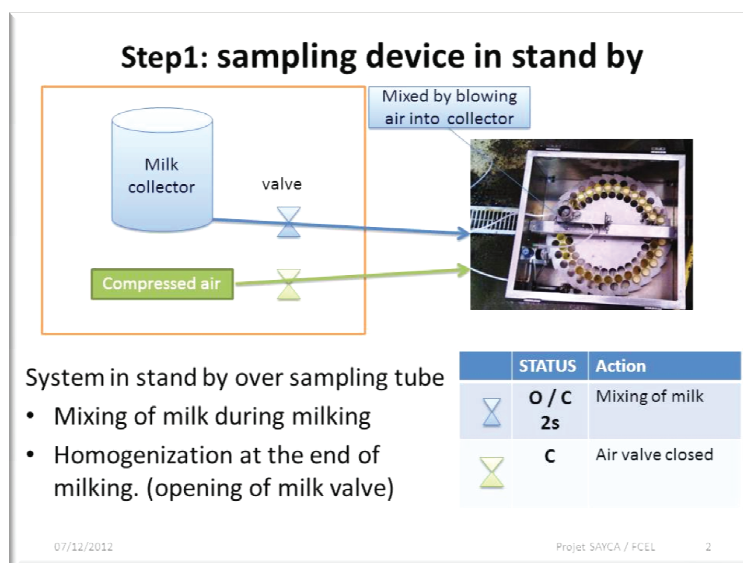
Milk (2) taken from the milking robot is sent to a calibrated buffer tank (7), the cylinder (8) is activated to carry out the filling of the bottle via the filling nozzle (3).

### 3.3. Functioning:

The system works en 5 stages :

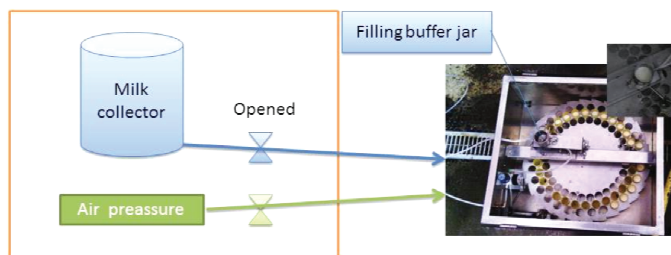
- 1 Waiting for the sample
- 2 Transport of milk
- 3 Sample calibration
- 4 Filling the bottles
- 5 Moving the samples

The system uses the robot controls by compressed air, and transports the milk by gravity into the sampler.





## Step 2: Routing of milk



- Opening milk valve.
- Filling of buffer jar
- Time adjustable

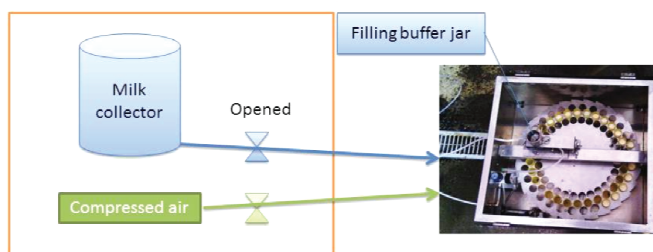
|  | status | Action                         |
|--|--------|--------------------------------|
|  | O      | Filling buffer jar (17 à 25 s) |
|  | C      | Air valve closed               |

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3

## step 3: Calibration of sample



- Opening milk pipe valve
- Suction of milk surplus in the buffer jar with vacuum from the milking system, through the same milk pipe valve.

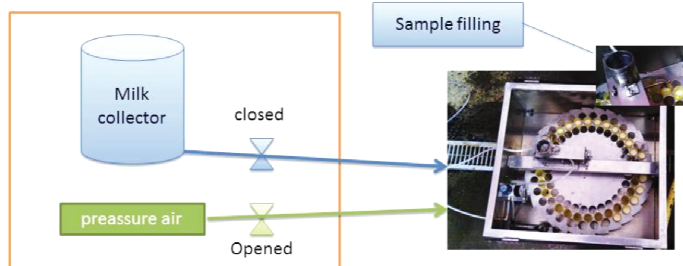
|  | status | Action                          |
|--|--------|---------------------------------|
|  | O      | Suction of extra milk by vacuum |
|  | C      | Preasured air valve closed      |

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## step 4 : filling of sample



- Activation preassured air (Min 20s)
  - Opening valve for filling of sample
  - Activation cilinder for displacenet of crown gear.

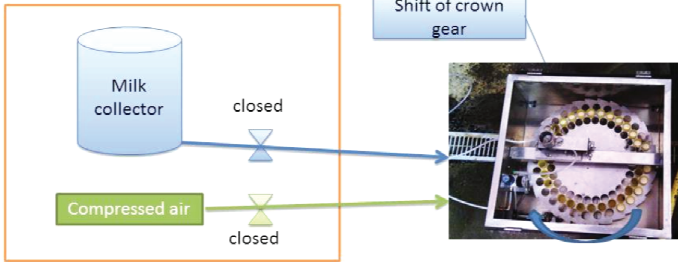
|  | status | Action                      |
|--|--------|-----------------------------|
|  | C      | Closed vanne                |
|  | O      | Preassured air valve opened |

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**step 5 : Displacement of crown gear**



- Closing preassured air valve:
  - Closing valve for filling the sample.
  - Shift of crown gear, with all the sample tubes.
  - Syatem ready for a new sample.

|  | status | Action                       |
|--|--------|------------------------------|
|  | C      | Milk valve closed            |
|  | C      | Preassured air valve closed. |

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### 3.4. Specifications:

|              |                                            |
|--------------|--------------------------------------------|
| Capacity:    | 90 Bottles, 30 /40 ml                      |
| Feed :       | Compressed Air ( Max : 6 Bar, Min : 4 Bar) |
| Dimensions : | 600x570x250 mm                             |
| Weight :     | 15 Kg.                                     |

### 3.5. Plate:

The plate es attached on the side of the handle.



For any requests, please quote the seria number of the device.

## 4. INSTRUCTIONS OF USE OF THE ORI-COLLECTOR

### 4.1. Transport and Storage of Ori-Collector:

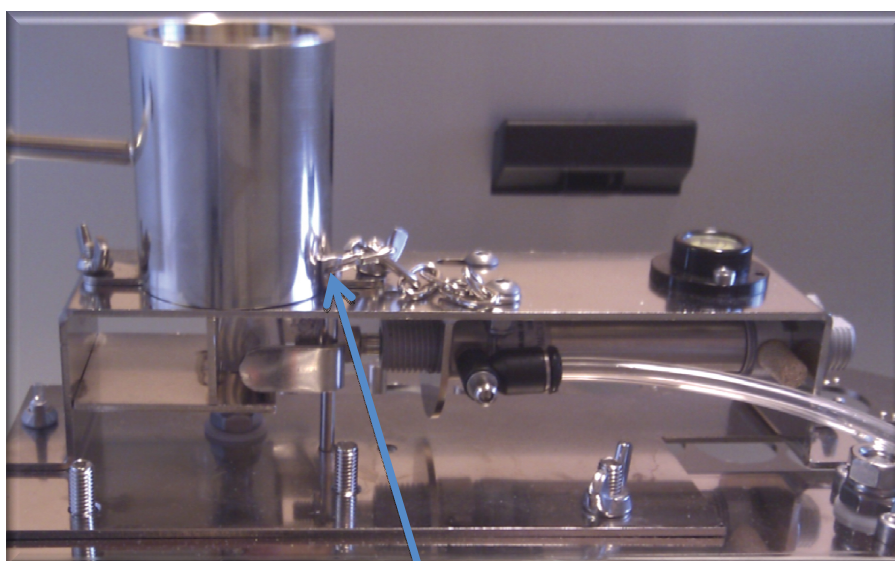
When transporting Ori-Collector, please ensure that the sampler is in the correct position for transportation on the following points:

#### 4.1.1. System Drive



The system drive and the retaining plate must provide support for the crown. (No scruffy)

#### 4.1.2. Filing System Bottle



The filling system should be in rest position (Valve Open), check the positioning of the pin

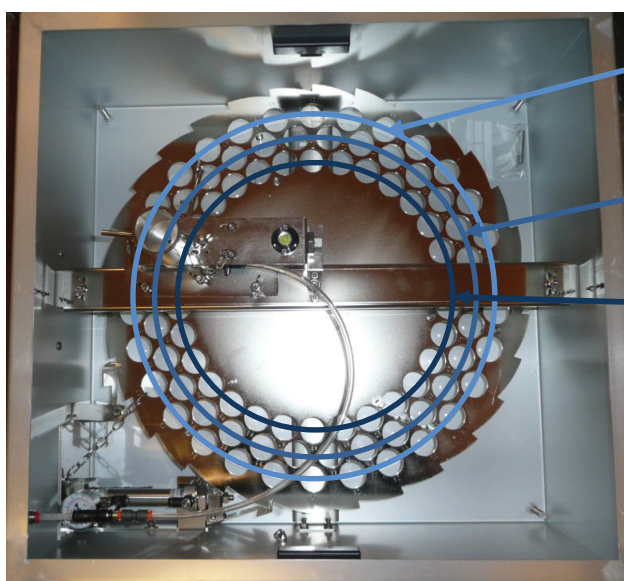
You can store or transport Ori-Collector vertically or horizontally.

## 4.2. Assembly of the Ori-Collector:

### 4.2.1. Prepatation of the Samples

The system is circular :

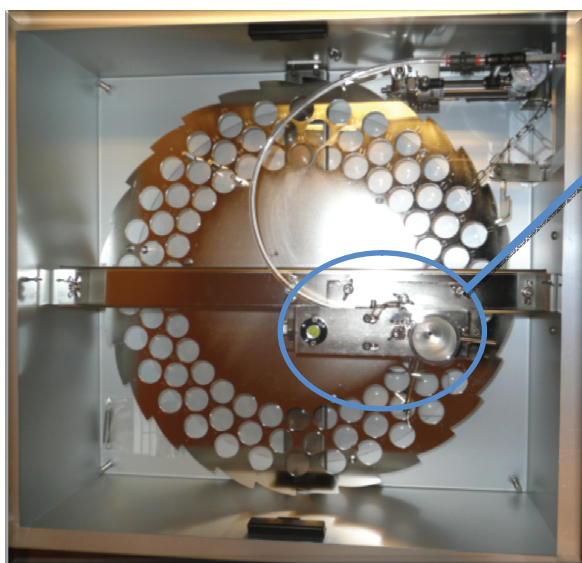
|             |            |
|-------------|------------|
| Outer Ring  | de 1 à 30  |
| Middle Ring | de 31 à 60 |
| Inner Ring  | de 61 à 90 |



Outer Ring

Middle Ring

Inner Ring



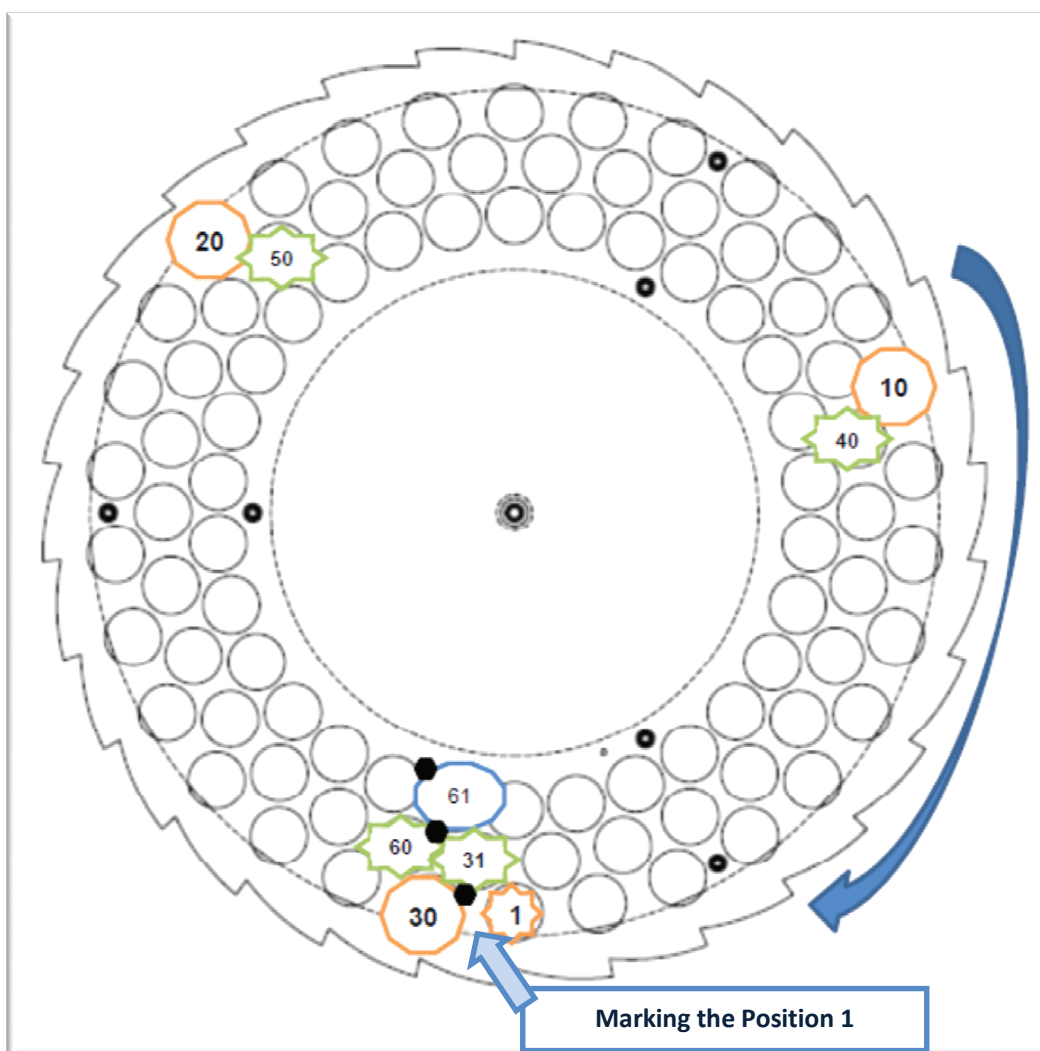
Starting Position No. 1



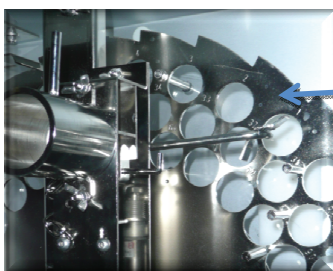
**Load the bottles before connecting the robot**



Diagram showing the loading of the bottles



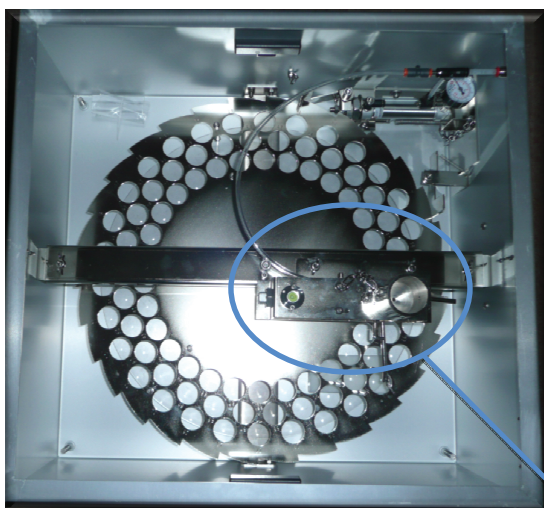
The crown is engraved with the corresponding sample numbers. It is important to number the bottles filling the crown.



**Important:** Place the filling hose on simple 1.

#### 4.2.2. Unlocking The Filling System

The system has a locking system for the filling of the bottles.

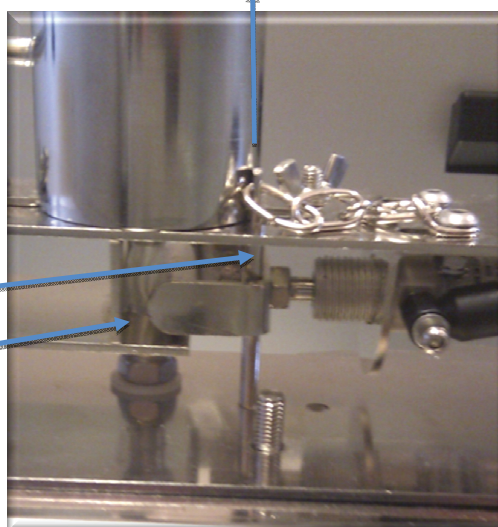


Pull the pin upwards to activate the cylinder for the filling of the bottles

In order to avoid solliciting the **silicone hose** during the stages of transport and storage, a pin has been designed to bedraggle the system.

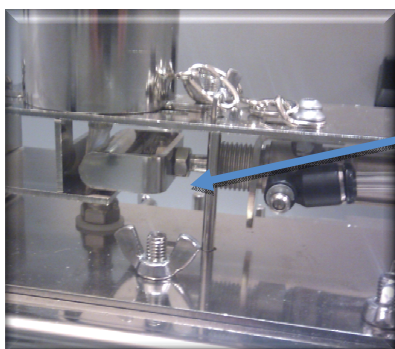
Pin

Silicone Hose



Once the pin is removed, place it in the hole provided for this purpose.

Pin in the Ori-Collector operating position



Please insert this pin in the hole when disassembling the Ori-Collector

#### 4.2.3. Positioning In Place of The Ori-Collector

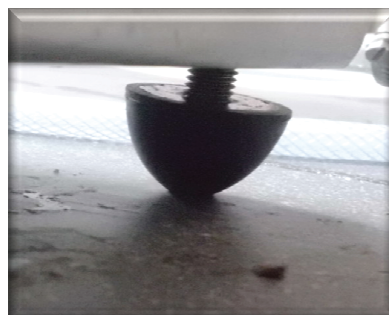
It is recommended that the Ori-Collector is positioned next to the Robot, as close as possible.



After handling the Ori-Collector, please make sure that the protecting cover is put in place.

#### 4.2.4. Levelling

Levelling is achieved by means of **adjustable feet** which are controlled through the **level indicator**.



### 4.3. Configuration the BRI Ori-Collector software on the robot:



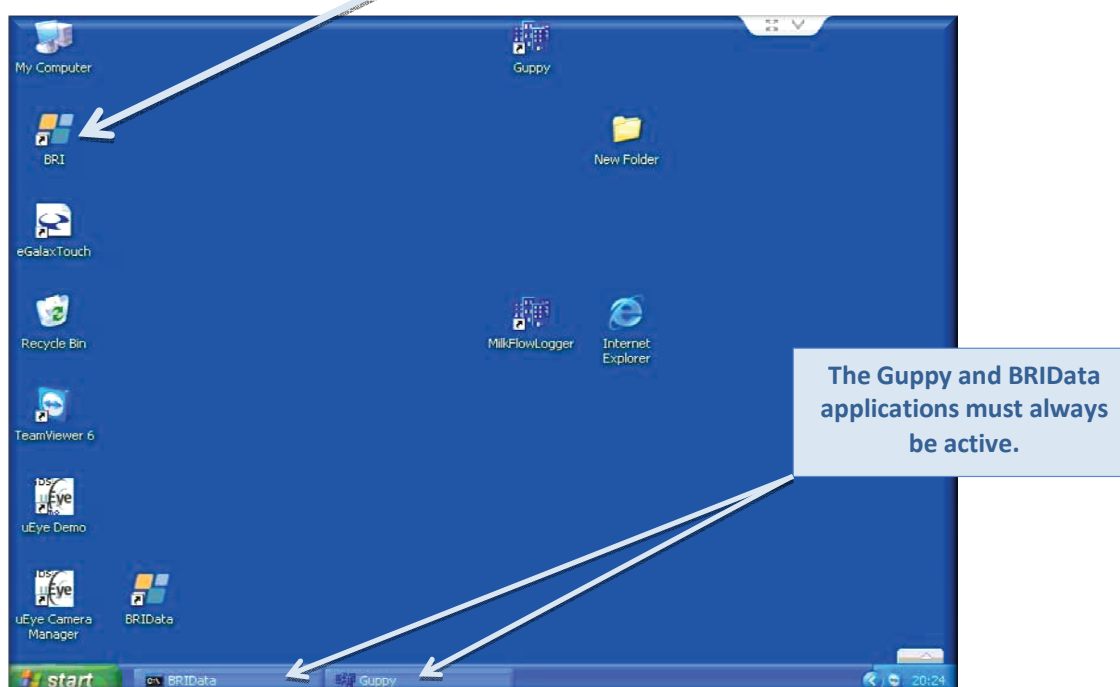
***Some parameters can only be modified by technicians  
Boumatic Robotics, please contact them before any opérations***

To set the robot, it is necessary to change the settings in the interface of the robot on the touch console.

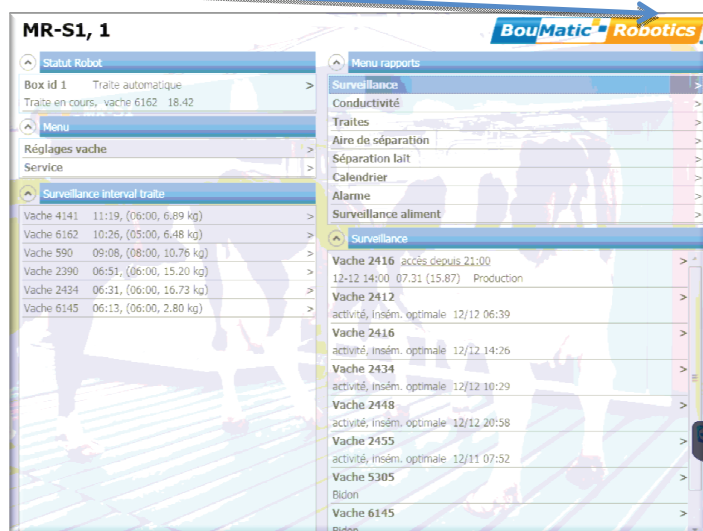
Follow these steps :

#### 4.3.1. Start/Close The Software BRI

Start the software by double clicking on the shortcut on the BRI.



Close the BIS software by clicking with your finger on the logoBoumatic top right and enter the 1988 code.

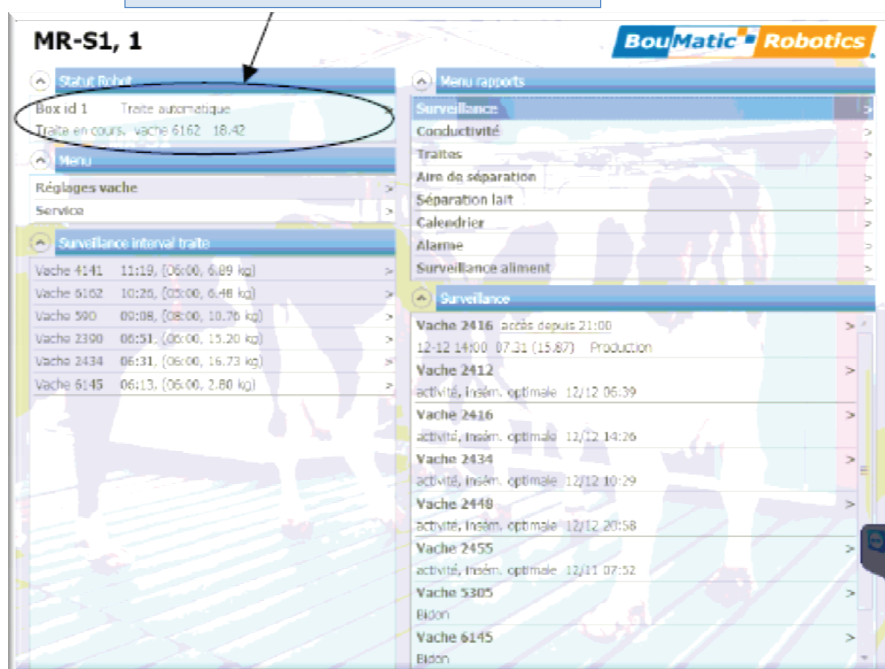




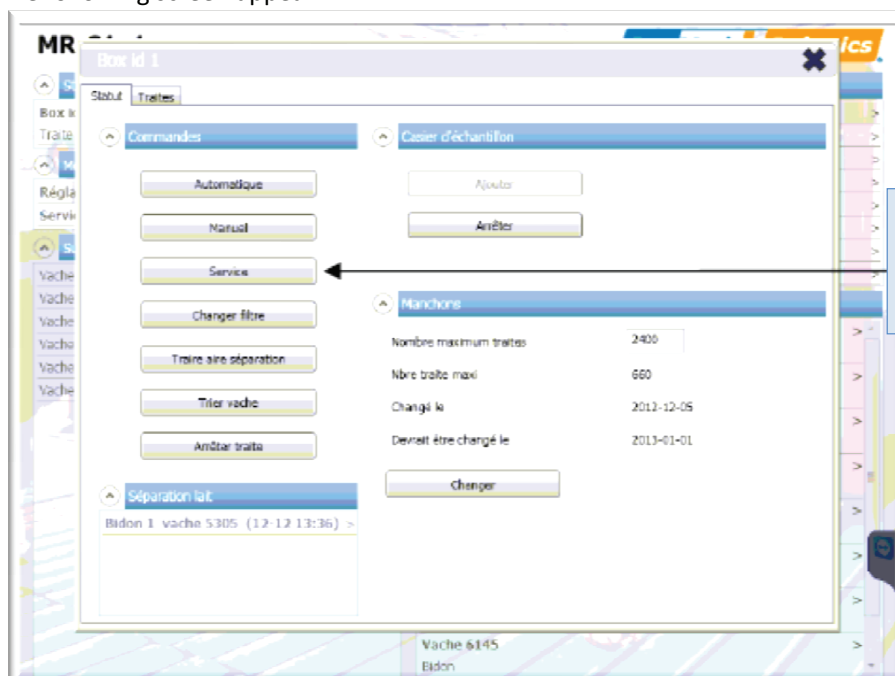
### 4.3.2. Put The Robot Out of Service



Double click the Robot Status



The following screen appear :

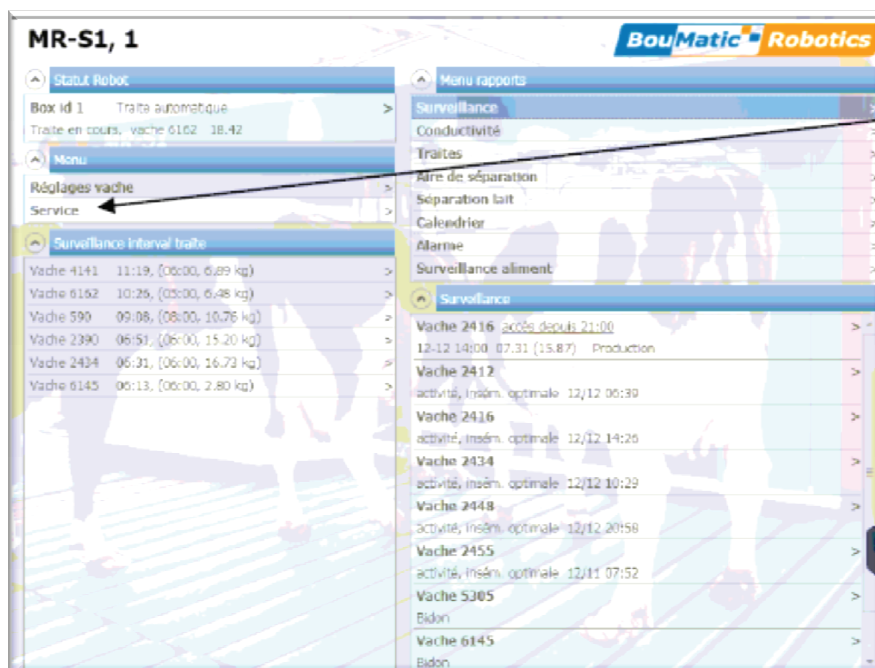


Select the button  
Service to stop  
Robot to install  
the sampler.

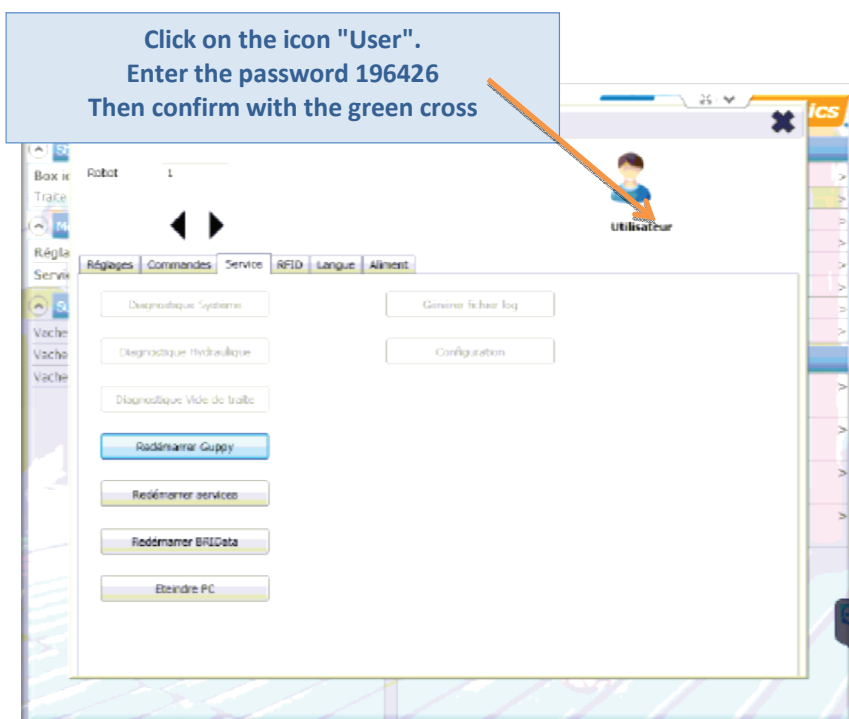
Service mode is displayed in the output status when the last cow.

#### 4.4. Connecting Ori-Collector on MRS1:

Then select the tab heading "Service"



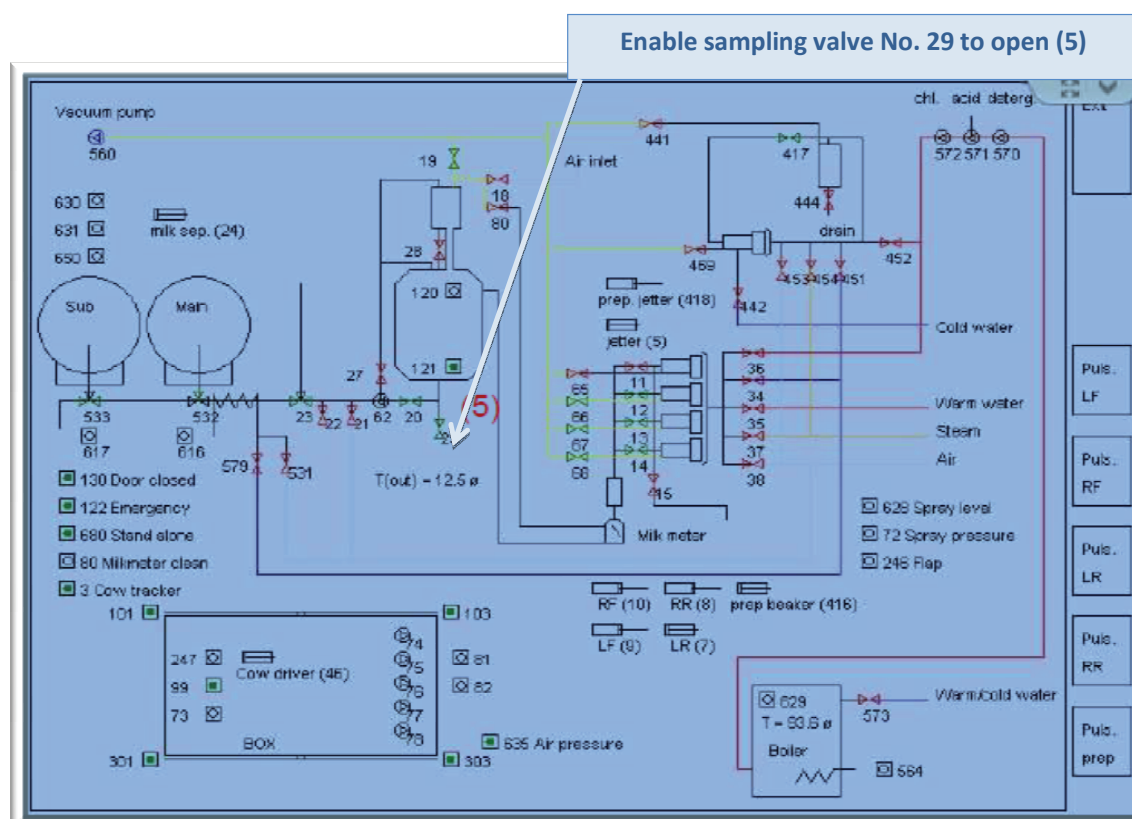
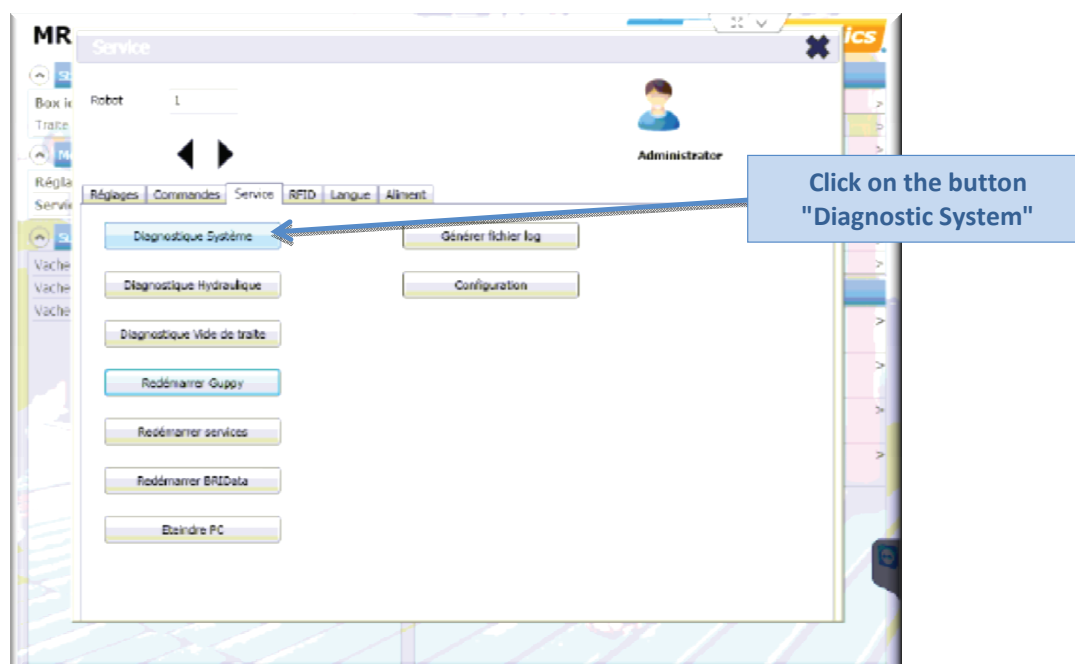
Double click on the parameter "Service".



Click on the icon "User".  
Enter the password 196426  
Then confirm with the green cross



The "Diagnostic System" button is now unlocked and accessible.



• **NOTE :**

Sampling Valve No. 29 green = closed valve  
Sampling Valve No. 29 red = open valve

#### 4.4.1. Pneumatic Connection

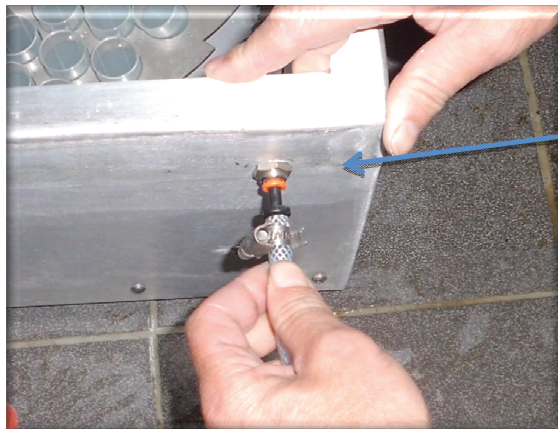
The maximum operating pressure for Ori-Collector is 6 Bar. (Minimum 4 bar).

Please connect the supply hose Compressed air on Ori-Ccollector :

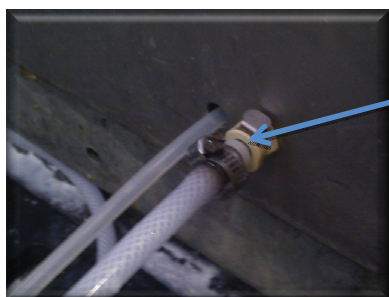


Pneumatic Connection

Login to the Ori-Collector and on the robot.



Connection on the Ori-Collector



Connection on the Robot

#### 4.4.2. Milk Hose Connection

To do this, please go to the robot's screen to activate the opening of the milk robot gripper. Sampling Valve No. 29 red = open valve.

##### 4.4.2.1 Remove the Rubber Plug from the Socket at the Output of the Reception of Milk.



##### 4.4.2.2 Connect the Silicone Hose with the Connector in the Sleeve.



##### 4.4.2.3 Insert the Silicone Tube Into the Plug.





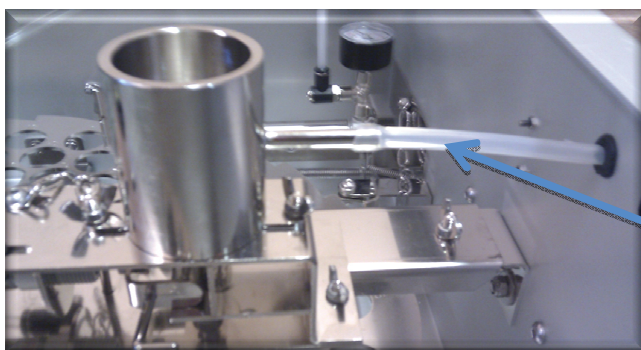
#### 4.4.2.4 Insert the Hose Into the Robot Stall.



#### 4.4.2.5 Connecting the Ori-Collector

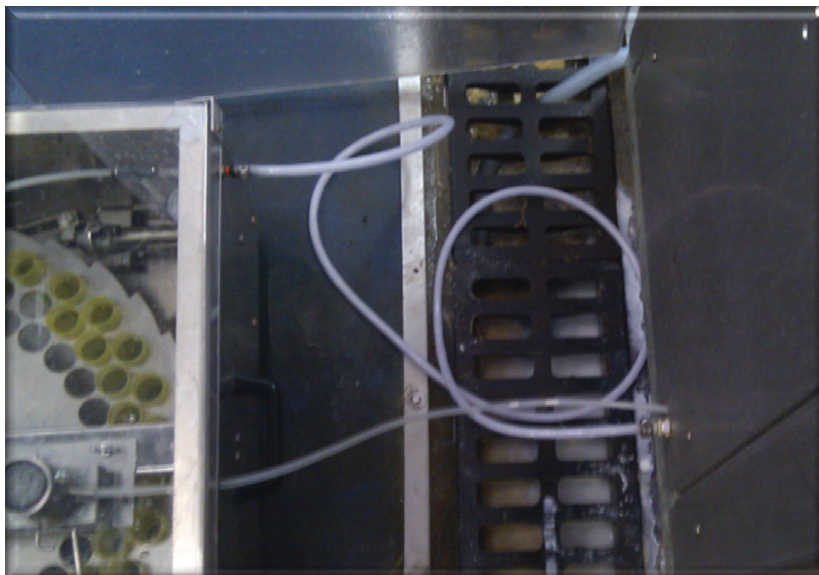


Place the milk hose in the hole  
that is protected by a rubber  
ring



Connect the milk hose  
on the dosing system

Final installation with the Ori-Collector



### **Long Milk Hose :**

Recommended measurements : 1,5 to 2 Metres Maximum.



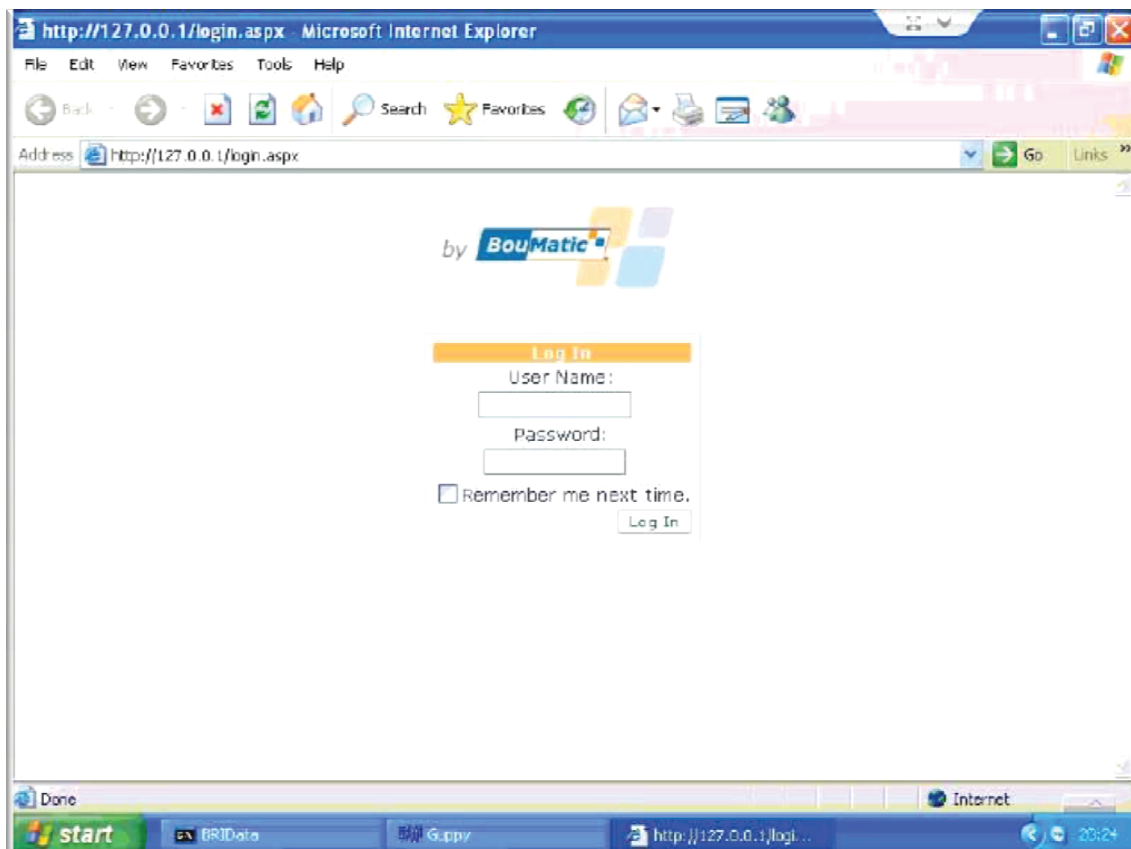
After handling the Ori-Collector, please make sure that the protecting cover is put in place.



#### 4.5. Start Sampling:

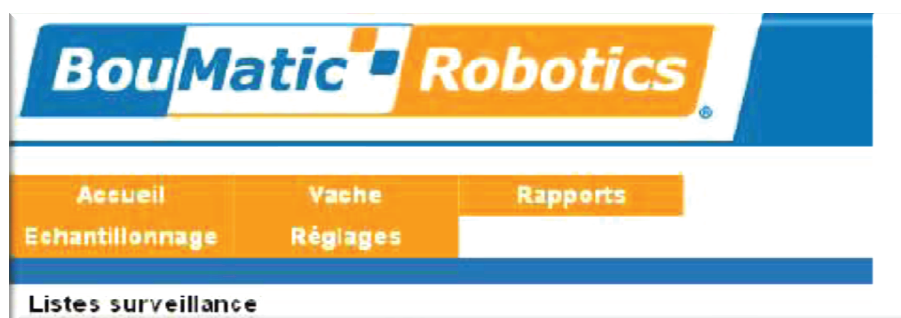
Enable sampling mode on MRS1.

Open the web interface double clicking the shortcut now on the computer desktop.



Double click in Username. The Username will appear automatically and the password.  
Click on "Log In"

The web interface appears and presents the following menu.





Click on Sampling (Echantillonnage)  
Click on "Start Sampling" (1) (Démarrer Échantillonnage)

**BouMatic Robotics**

Accueil Vache Rapports

Echantillonnage Régliages

Echantillonnage Démarrer échantillonnage (1)

(2) 2/1/2012 3:52:49 PM Exporter

Not Sampled Non échantillonnées

| vache | date       | temps | production |
|-------|------------|-------|------------|
| 804   | 2012-03-19 | 19:29 | 20.88      |
| 988   | 2012-03-19 | 07:08 | 19.44      |
| 994   | 2012-03-19 | 21:17 | 13.42      |
| 2020  | 2012-03-19 | 19:00 | 14.59      |
| 3914  | 2012-03-19 | 15:42 | 8.73       |
| 9999  |            |       |            |

The date and start time sampling appears in the box under "Sampling" (2)

All cows are shown in the table "Not sampled" (3)

Cows sampled are displayed in the table at the bottom of the screen.

Close the Web interface.

#### 4.6. Declaring a basket on the number MRS 1:

To make the numbering of the baskets easier, we propose the following method:

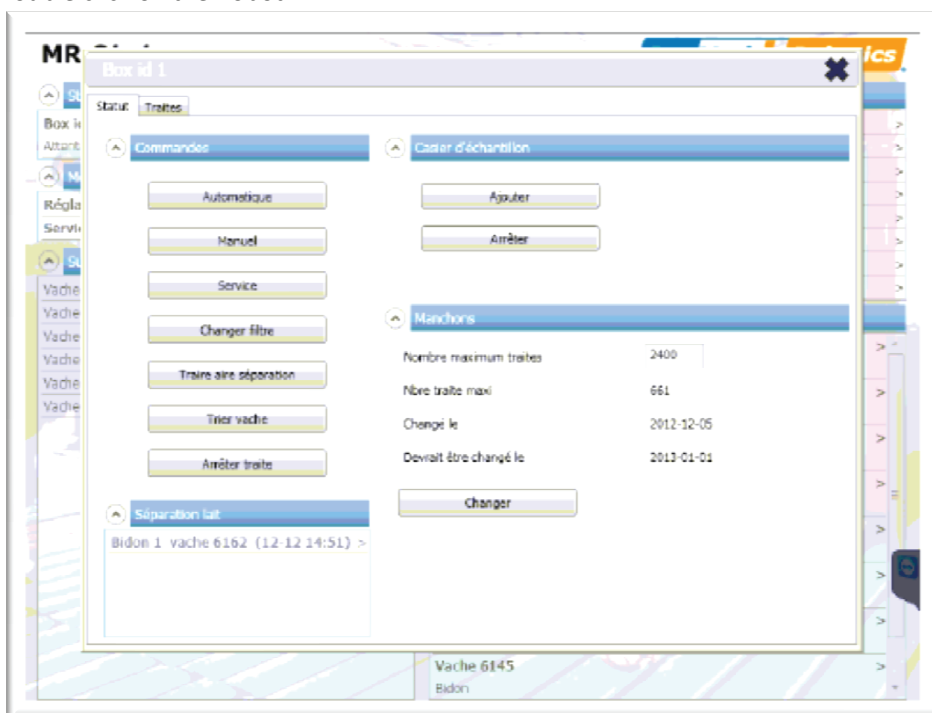
| 1 Robot |        |  | Laboratory |              |  | 3 Robot |        |  | Laboratory |              |  | 4 Robot |        |  | Laboratory |              |  |
|---------|--------|--|------------|--------------|--|---------|--------|--|------------|--------------|--|---------|--------|--|------------|--------------|--|
| Robot   | Basket |  |            | Basket Order |  | Robot   | Basket |  |            | Basket Order |  | Robot   | Basket |  |            | Basket Order |  |
| 1       | 1      |  |            | 1            |  | 1       | 1      |  |            | 1            |  | 1       | 1      |  |            | 1            |  |
|         | 2      |  |            | 2            |  |         | 4      |  |            | 2            |  |         | 5      |  |            | 2            |  |
|         | 3      |  |            | 3            |  |         | 7      |  |            | 3            |  |         | 9      |  |            | 3            |  |
| 2       | 1      |  |            | 1            |  | 2       | 2      |  |            | 4            |  | 2       | 2      |  |            | 4            |  |
|         | 3      |  |            | 2            |  |         | 5      |  |            | 5            |  |         | 6      |  |            | 5            |  |
|         | 5      |  |            | 3            |  |         | 8      |  |            | 6            |  |         | 10     |  |            | 6            |  |
| 2       | 2      |  |            | 4            |  | 3       | 3      |  |            | 7            |  | 3       | 3      |  |            | 7            |  |
|         | 4      |  |            | 5            |  |         | 6      |  |            | 8            |  |         | 7      |  |            | 8            |  |
|         | 6      |  |            | 6            |  |         | 9      |  |            | 9            |  |         | 11     |  |            | 9            |  |
| 2       | 2      |  |            | 4            |  |         |        |  |            |              |  | 4       | 4      |  |            | 10           |  |
|         | 4      |  |            | 5            |  |         |        |  |            |              |  |         | 8      |  |            | 11           |  |
|         | 6      |  |            | 6            |  |         |        |  |            |              |  |         | 12     |  |            | 12           |  |



Please indicate the robot number on the sampler by means of a paper placed on the plastic cover. Please note the numbering is very important.

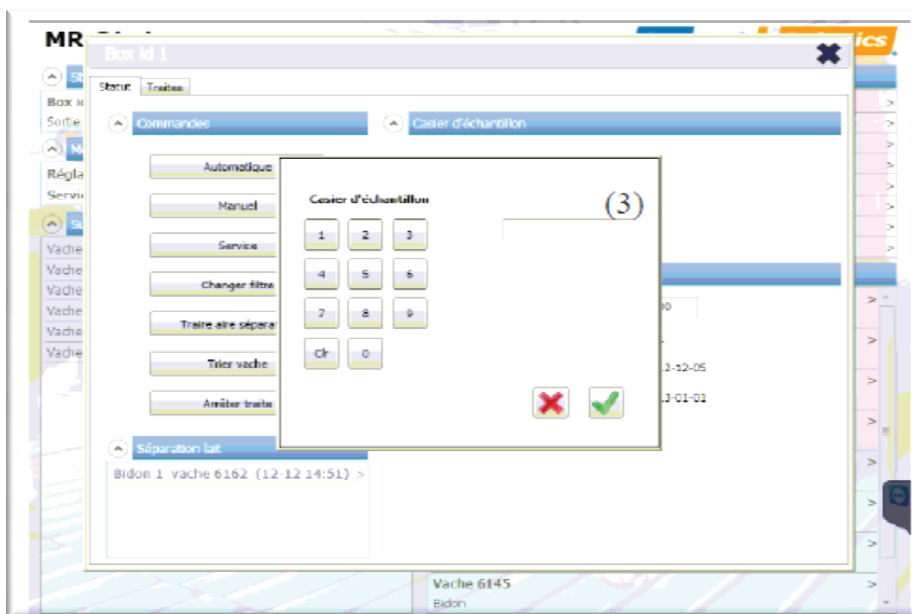
Start BRI.

Double click on the Robot.



You are viewing the "sample rack" on the top right of the window.

Click "Add" on the sample rack and enter the desired number of series. (3)



Confirm with the green cross.

Close the door of entry of the robot.

Press the blue button for it to be on steady.

Click on the "Automatic" button in the status screen.



Click on the black cross on the top right to get the main screen.

Check that the control works correctly (it is recommended to wait for the passage of a few cows). To do this, check the presence of milk in the first sample. Note the time of passage of the first cow (the time shown on the robot) and the identity of this cow.

#### 4.7. Reloading the Ori-Collector:

Reload the Ori-Collector according to the usage of the robot (as a reference, 7h for a usage of 8 cows per hour).

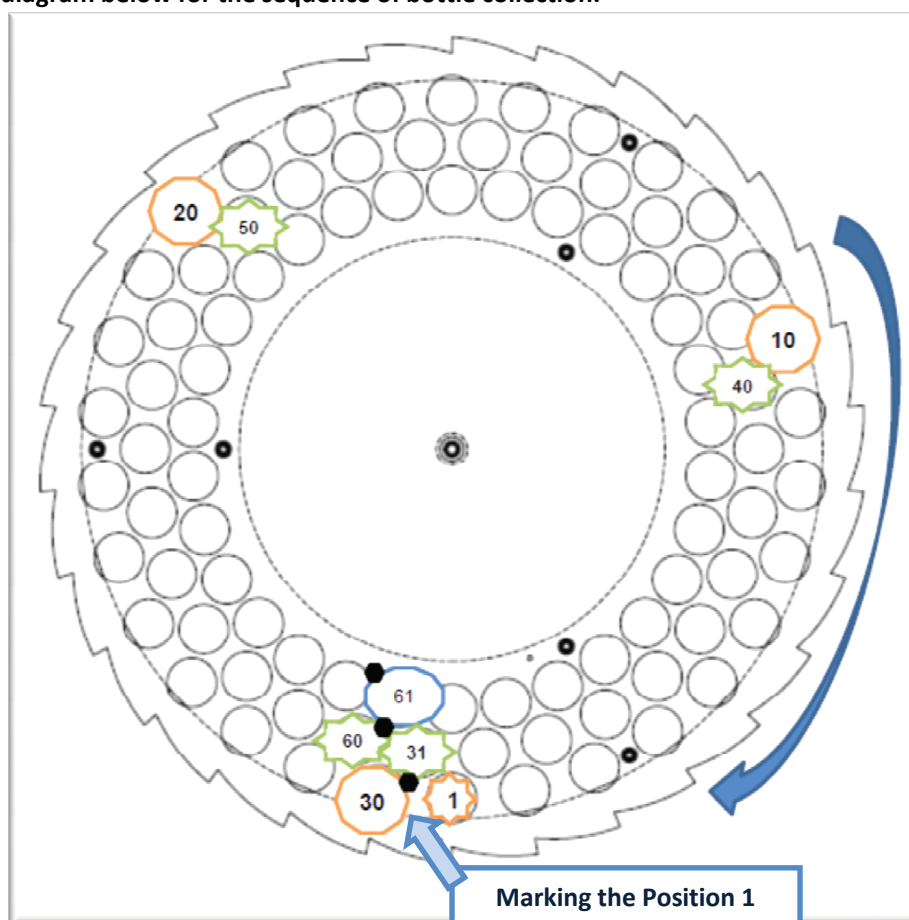
Once the first 80 samples have been taken (at an average passage rate of 6 to 8 cows per hour):

- Stop the operation of the robot by blocking the access doors for the cows on the X-link, as explained in section 3.2.1
- Wait until the milk reception unit (jar) is empty and the cow is released.
- Remove all the bottles from the Ori-Collector, loading them in the CL basket.

**Caution, please follow the order of the bottles from position 1.**

**Please remove all the bottles from the outer ring first, then remove those from the middle ring, and then finish with the inner ring.**

**See the diagram below for the sequence of bottle collection.**



- 1 Note the time and sample number corresponding to the last milked cow of locker 1.
- 2 Note the time and number of the first cow of locker 2.

For the basket that has been loaded:

- Replace the caps on the vials and mix the milk and preservative.
- Check the consistency of the number of samples with the number of cows milked only empty bottles after the last sample is discarded.

All other (empty and full) are to be shipped to the laboratory.

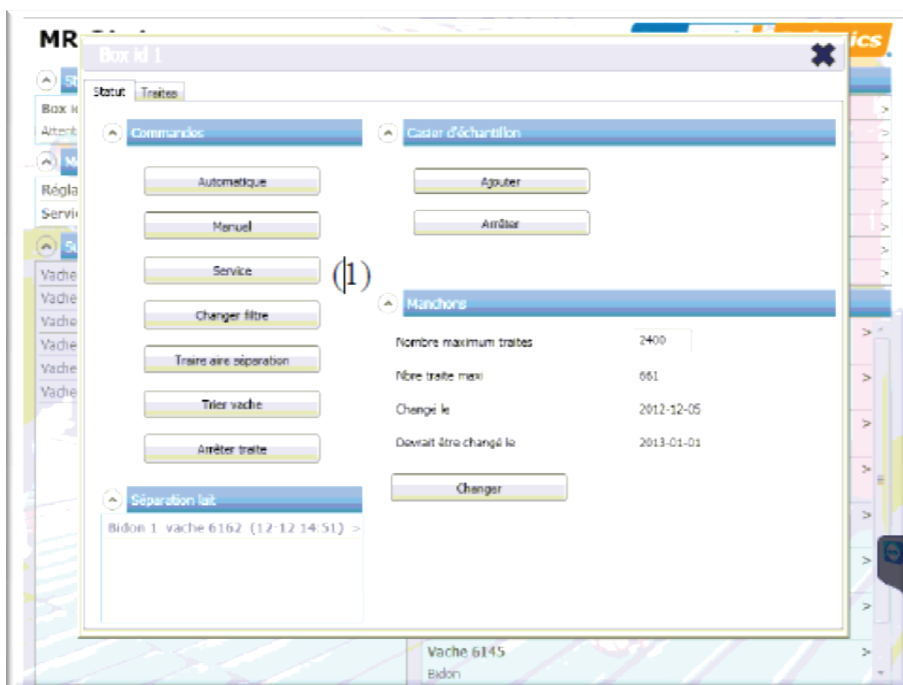


**After handling the Ori-Collector, please make sure that the protecting cover is put in place.  
Reminder about recommended numbering.**

#### 4.8. Declaring a New Basket of me MRS1:

Double click on the status of the robot.

Click on « Service » (1)



Wait until the "Status" of the "Mode" displays "Service"

IMPORTANT: MRS1 the robot will automatically stop to sample the bottle 90. This is to prevent pollution of the last bottle and iteration lag Dairy Control file.

#### IF CHANGE POSITION BEFORE 90:

In locker samples:

Click the "Stop" button to end the current basket

Click on the "Add" button and enter the serial number to declare a new basket.

In the "Status" click the "Automatic" button tab.

#### IF CHANGE IN POSITION 90:

In locker samples:

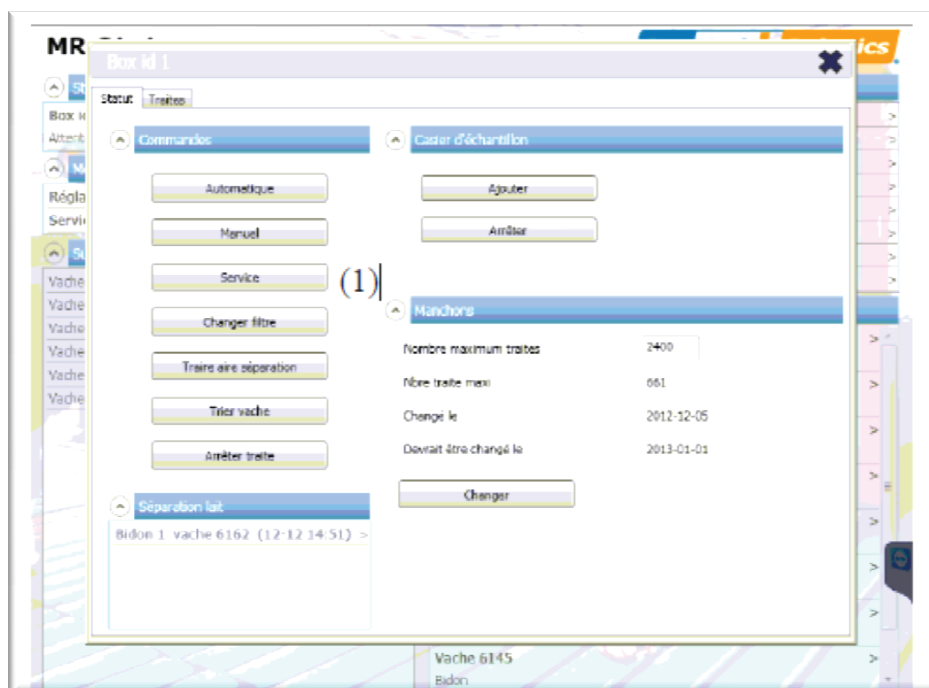
Click on the "Add" button and enter the serial number to declare a new basket.

In the "Status" click the "Automatic" button tab.

#### 4.9. Stopping the Sampling:

Double click on the status of the robot.

Click on « Service » (1)



Wait until the "Status" of the "Mode" displays "Service"

Close the BRI software by clicking the Boumatic Robotics logo at the top right of the screen.

Start the web interface by clicking the Internet shortcut explore.

Click the User Name and click Log in

Click on "Sampling" and then "Stop sampling"

#### 4.10. Disassembly Ori-Collector:

##### 4.10.1. Disconnect the Milk Hose Rubber Sleeve



#### 4.10.2. Remove the Sampling Valve of Milk Hose

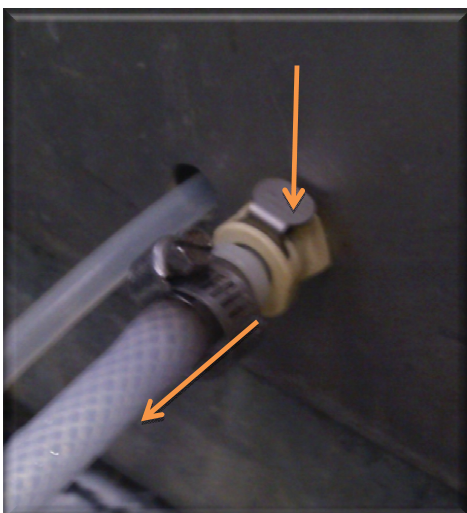
Open the sampling valve No. 29 from "Diagnostic System".



#### 4.10.3. Replace the Rubber Stopper Into the Stainless Steel Sleeve



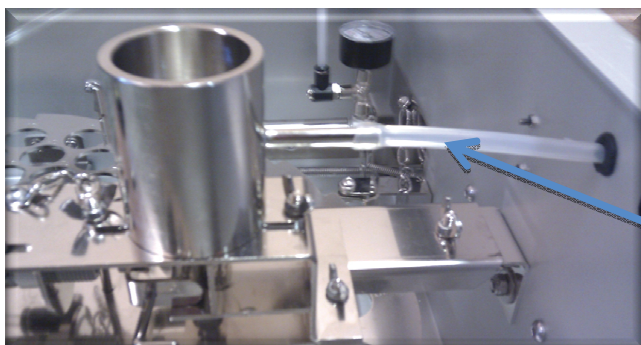
#### 4.10.4. Disconnect the Hose Robot Compressed Air



(1): Press the switch down

(2): Pull the hose to the rear without force fort

#### 4.10.5. Disconnect Ori-Collector



Remove milk hose into the hole protected by a rubber ring



Disconnect the milk hose on the dosing system

#### 4.11. Reactivating the Milking Robot:

Close sampling valve No. 29 of "diagnostic system" and then click "Exit"  
 Close the door of the robot.  
 Press the button to make it firm.  
 Close window "service".  
 Double-click on the status of the robot.  
 Select "Auto" to restart milking cows.  
 The doors open and the robot work automatically.



## 4.12. Exporting Data Robot:

Start the web interface by clicking the Internet shortcut explores.

Click the User Name and click Log in

Click on "Sampling" and then "EXPORT"

**BouMatic Robotics**

Accueil Vache Rapports

Echantillonnage Réglages

Echantillonnage Démarrer échantillonnage (1)

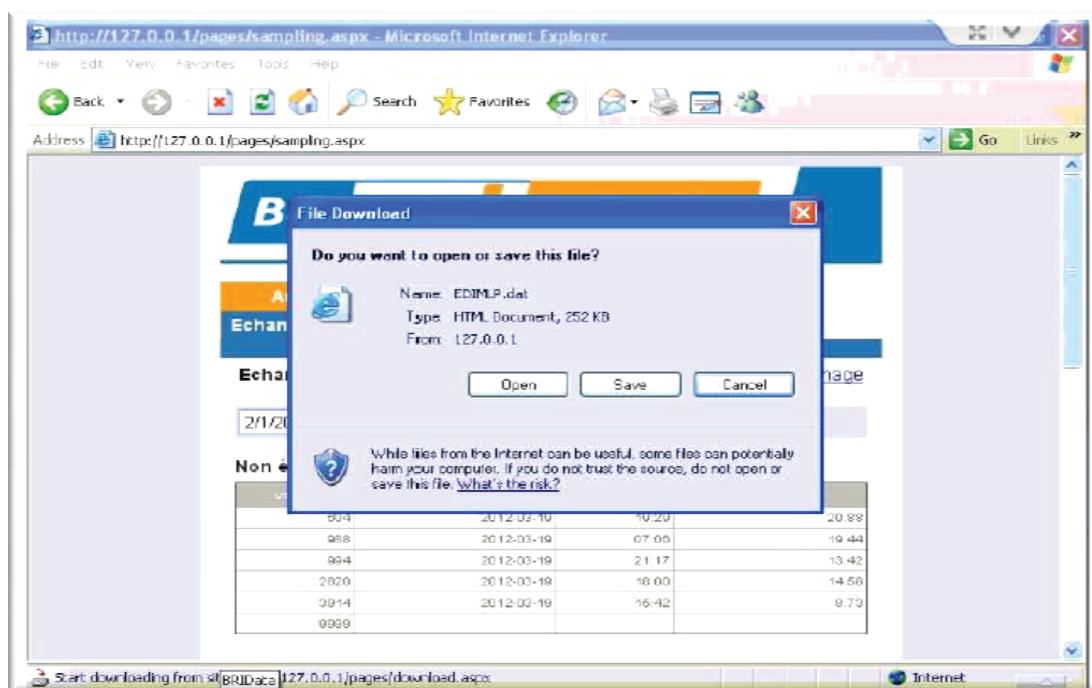
(2) 2/1/2012 3:52:49 PM Exporter

Not Sampled

(3)

| vache | date       | temps | production |
|-------|------------|-------|------------|
| 804   | 2012-03-19 | 19:29 | 20.88      |
| 988   | 2012-03-19 | 07:08 | 19.44      |
| 994   | 2012-03-19 | 21:17 | 13.42      |
| 2820  | 2012-03-19 | 18:00 | 14.68      |
| 3814  | 2012-03-19 | 15:42 | 8.73       |
| 9899  |            |       |            |

Click the "Export" button to create and save the milk recording file. It will be generated as the EDIMPL.dat



WARNING: Internet security message appears explore when you click the "Export" button the first time.

In that case right-click on the message in the banner and then allow access by selecting "Allow this content" and start exporting.

Close the Web interface

Start the BIS software and open the "System Diagnostics"

Open the sampling valve # 29 to release the sampling milk hose.



**CAUTION: DO NOT FORGET TO INFORM THE NUMBER OPERATING IN THE WEB INTERFACE FOR POWER EXTRACT FILE CONTROL DAIRY.**

Finally:

- Select the location where you want to save the document

- In type, select « Text Document »

- Insert a name with the format XXX.dat or XXX.txt

Verification of compliance of the data file « edi-mlp »

After the first data retrieval, the dairy inspector must make sure the information contained in the file (number of livestock) is complete and in the correct format, see CPL MO 307 format type 2.

If necessary, s/he may request the installation technician to make the necessary changes.

Description of a file of type 2:

Ce format ne comporte qu'un seul type d'enregistrement qui regroupe les données relatives à l'exploitation, au prélèvement d'échantillon et à la production de lait.

→ lignes de type **VN880022**.

La ligne de définition commence avec : **DN880022**.

Elle contient :

DN8800220080000415000900080150009000700600080002910000900054080009000780600  
0900042031009000251500080070101000900024060

Les enregistrements élémentaires ont la structure suivante :

| Positions | Nom donnée                             | Format | Long. | Présence | Commentaires                                               |
|-----------|----------------------------------------|--------|-------|----------|------------------------------------------------------------|
| 1-2       | type de ligne = <b>VN</b>              | A      | 2     | O        |                                                            |
| 3-8       | entité = <b>880022</b>                 | N      | 6     | O        |                                                            |
| 9-23      | Numéro de cheptel                      | N      | 15    | F        | cadre à droite ne contient pas FR à gauche du numéro       |
| 24-38     | Numéro d'identification animal         | N      | 15    | F        | cadre à droite; Il peut y avoir des zéros à gauche         |
| 39-44     | Numéro animal (de travail)             | N      | 6     | O        | cadre à droite ; Il ne peut pas y avoir des zéros à gauche |
| 45-54     | Nom animal                             | AN     | 10    | F        |                                                            |
| 55-62     | Date de la traite                      | N      | 8     | O        | aaaammjj                                                   |
| 63-68     | Heure de la traite                     | N      | 6     | O        | hhmmss                                                     |
| 69-71     | Poids de lait individuel               | N      | 3,1   | F        | cadre à droite                                             |
| 72-86     | Numéro de tube de l'échantillon        | N      | 15    | F        | Les 4 caractères significatifs sont cadrés à droite        |
| 87        | Indicateur de traite valide (Gemolken) | N      | 1     | O        | 0 = oui ; 1 = non                                          |
| 88-93     | Numéro de panier                       | N      | 6     | F        | ???                                                        |

Présence : K = Key (Identifiant).....  
O = Obligatoire  
F = Facultatif

#### **4.13. Original treatment with Robot:**

When using Ori-Collector, there is no problem with treating Original Robot.

#### **4.14. Edit Sample :**

## 5. CLEANING AND MAINTENANCE

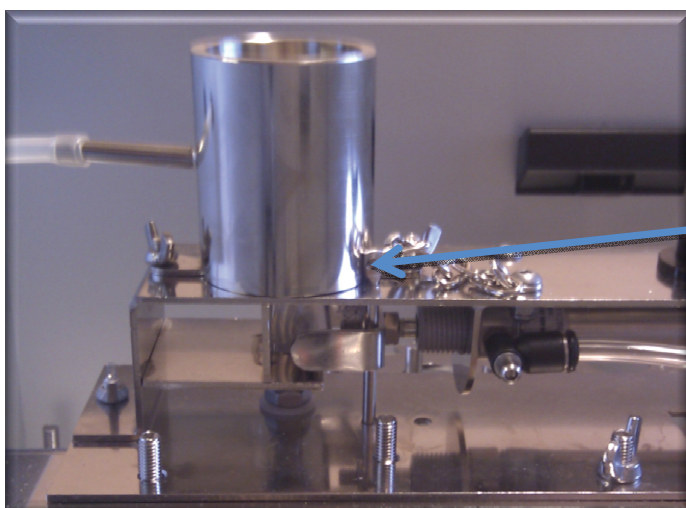
### 5.1. Washing After Inspection:

Before the cleaning process is started, please put the pin of the bottle filling system back in place.



Put your finger underneath to pull the drawer.

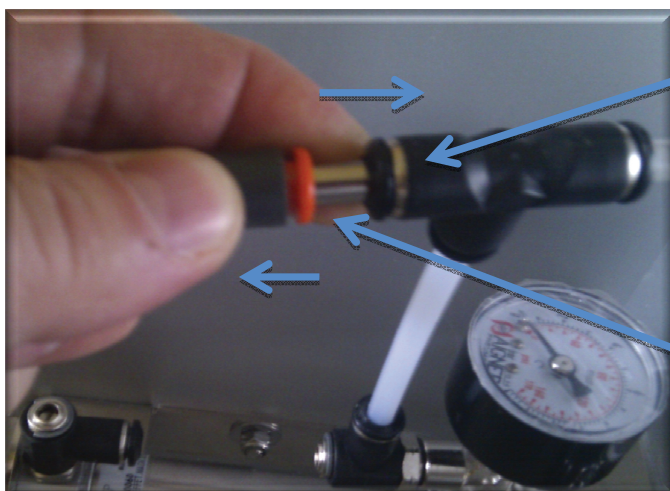
Insert the pin in the hole provided for this purpose.



Pin in Off or transport position

Once the pin has been inserted in Transport/Off mode, the filling system may be disassembled to proceed with its cleaning.

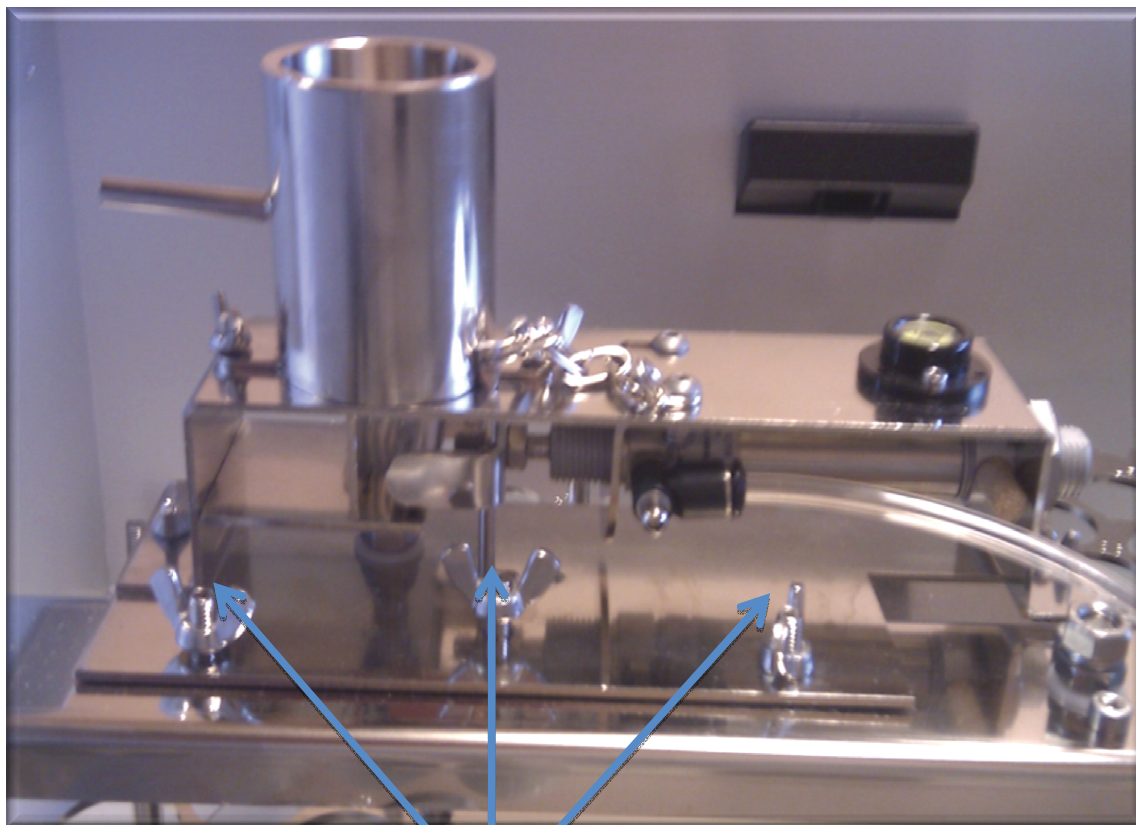
Removal of the Compressed Air



Press on the flange of the compressed air connection

Pull the back connection compressed air tube

Dissamble the filling system.



**Dismantle the 3 winged nuts**

The box of the Ori-Collector can be cleaned with water by avoiding:

- Filling it with water completely
- Spraying the drive cylinder (shorter life)
- Using a suppressor for cleaning ( a simple damp cloth will suffice)

It is necessary to drain the remaining water through the evacuation holes provided for this purpose.

It is not necessary to spray the drive cylinder.



## 5.2. Cleaning of the filling System and Hose:

The support can be removed in order to be cleaned directly over a sink.



Use the syringe to inject hot water with a little acid in the silicone hoses and in the stainless steel tank.

**Caution:** Because a chemical product is being used, it is imperative that personal protective equipment is worn.

## 5.3. Cleaning the Box and Crown:

The crown may be washed with water.

Do not use pressure, THIS COULD DAMAGE THE CYLINDERS

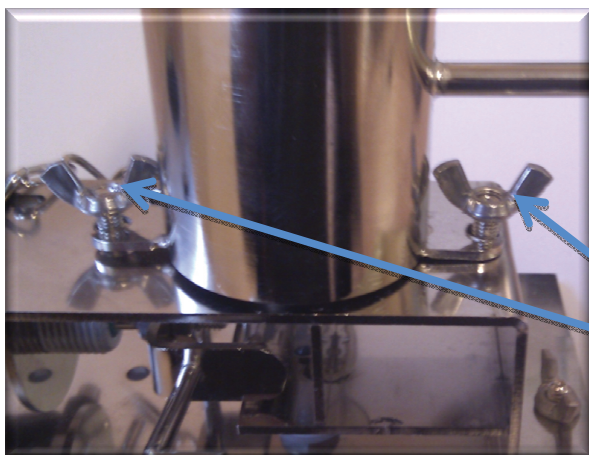


Drain Plug

#### 5.4. Removing the Silicone Hose from the Filling System:

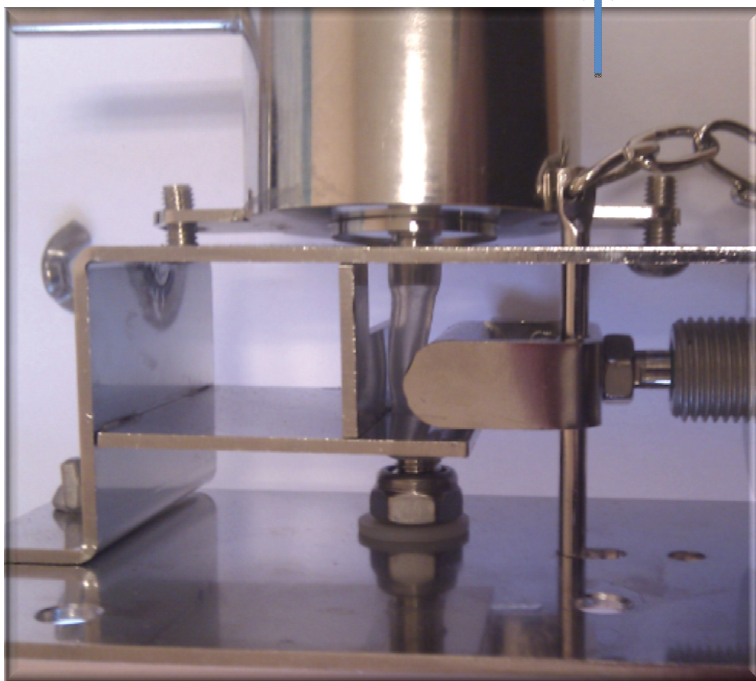
In order to replace the silicone hoses, please follow these steps:

Dismantle the stainless steel tank.

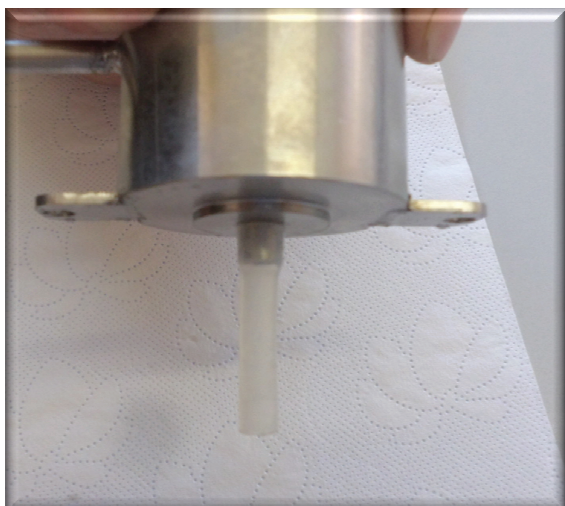


Loose the winged nuts

Gently pull the stainless steel tank up to disconnect it from the rest of the device.

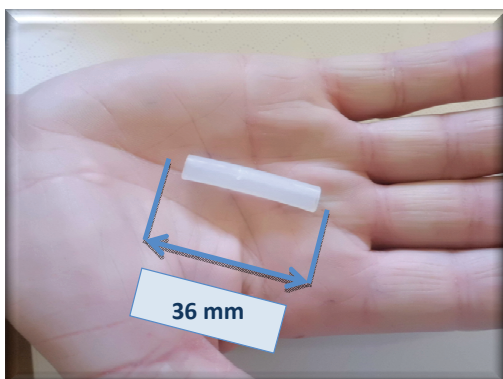


Once the tank has been extracted, the silicone hose may be changed if it is damaged.



Please remove the silicone hose and replace it on the tank filler (without silicone grease).

Size of the silicone Hose: (4/6, 4 mm inside, and 6 mm outside).



Before connecting the tank with the silicone hose, it is **imperative** to lubricate it with food grease.

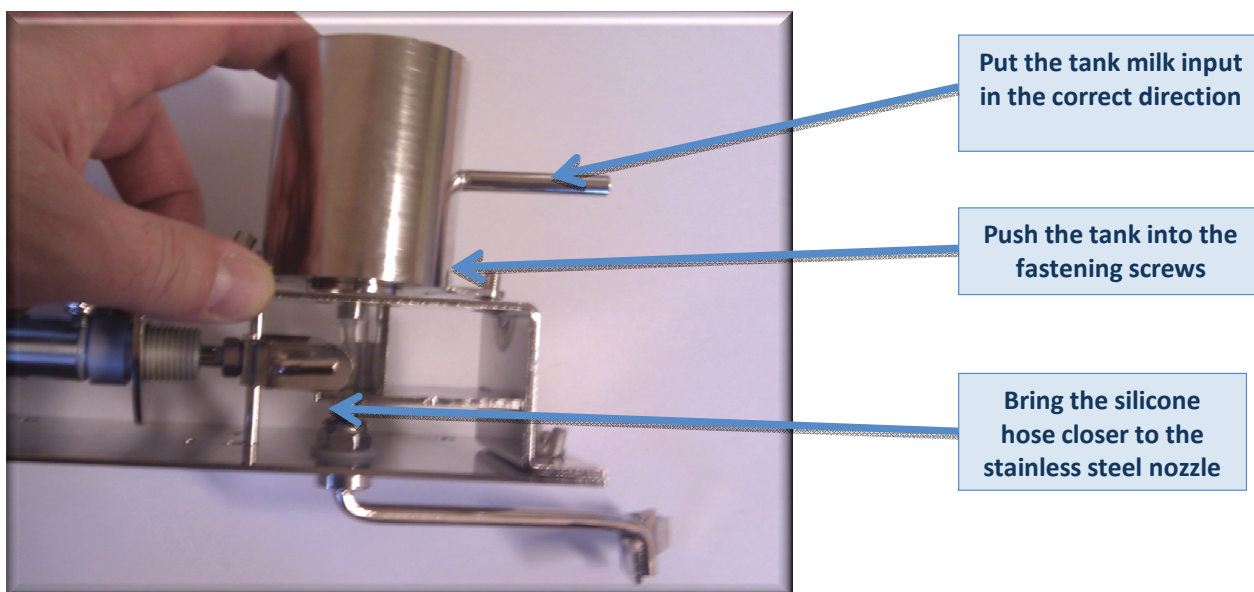


Food Grease

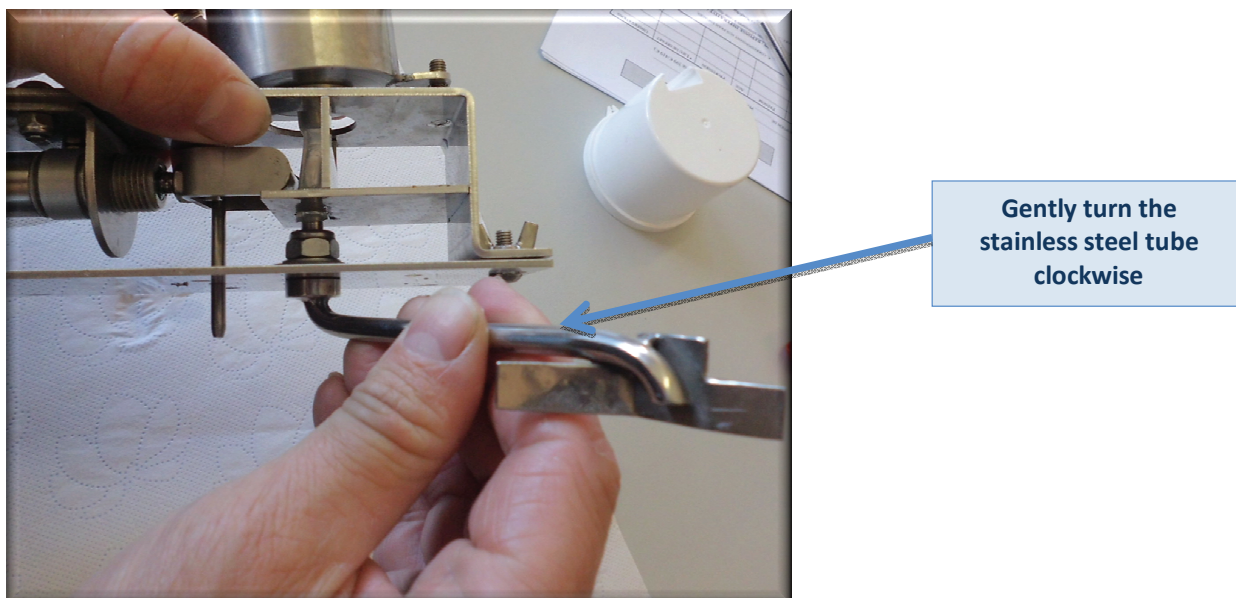




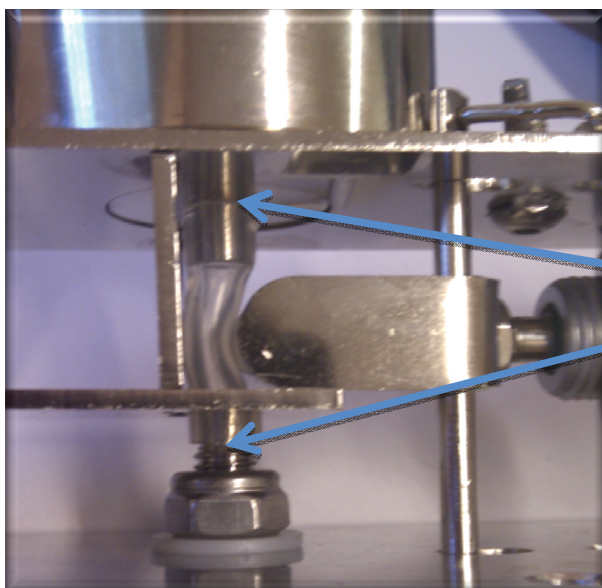
Connect it is the following manner :



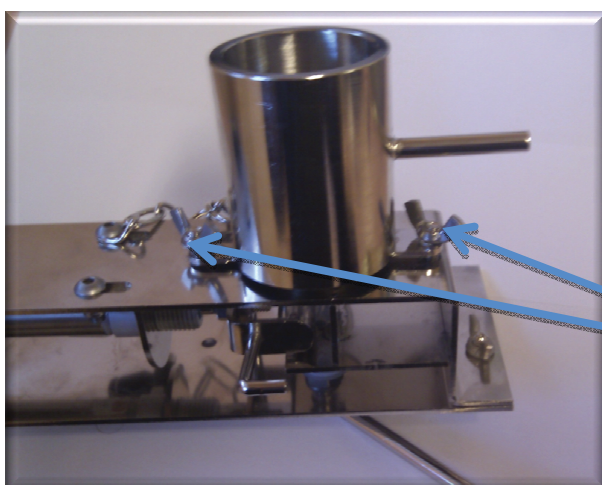
To enable the introduction of the silicone tube into the stainless steel nozzle, it is necessary to turn the stainless steel filling hose.



Checking the silicone hose connection is correct.

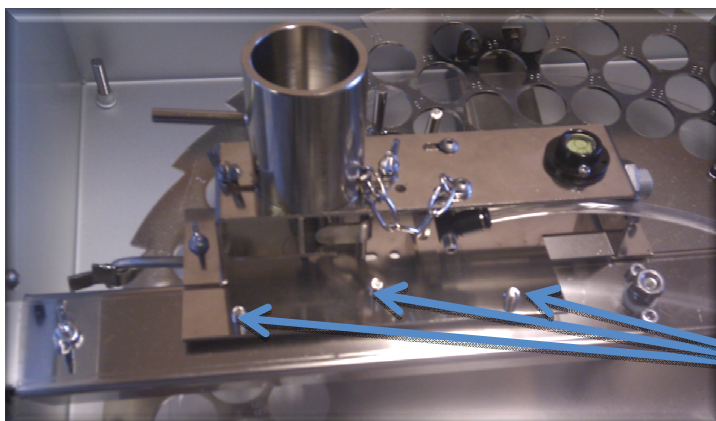


Make sure that the hose is tightly placed on both sides



Put the winged thumbscrews back in place

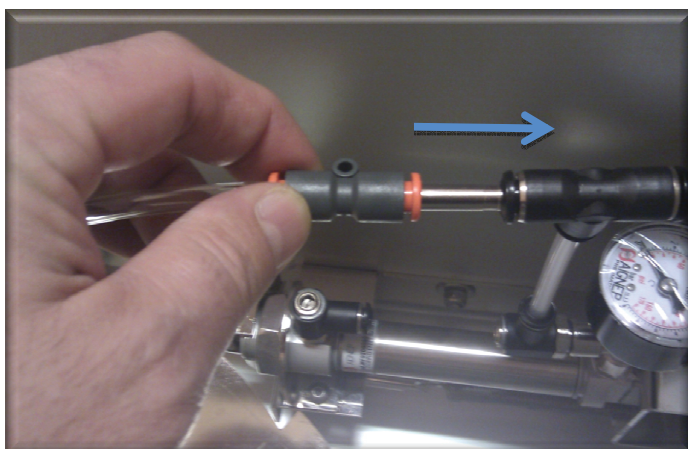
Put the device back on its mounting rail.



Put the winged thumbscrews back in place



Reconnect the compressed air.



### 5.5. Removing the Steel Plate:



Before proceeding to dismantle de crown, please make sure that the system is not connected to the compressed air.

To facilitate the disassembly, the drive system of the stainless steel crown may be bedraggled. For this purpose, use the stainless steel chainlets to retain the drive crown plate (Fig. 1) and also the non-return crown system (Fig. 2)

Fig. 1

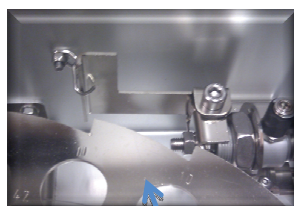
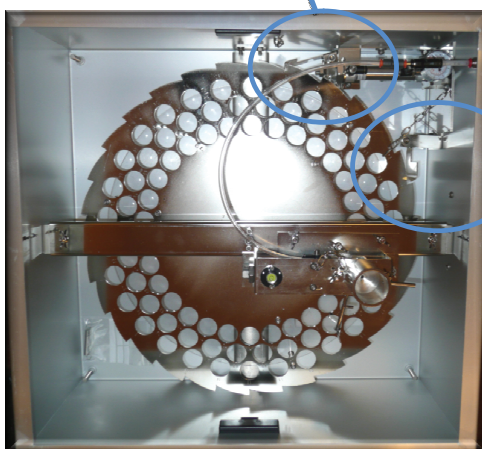
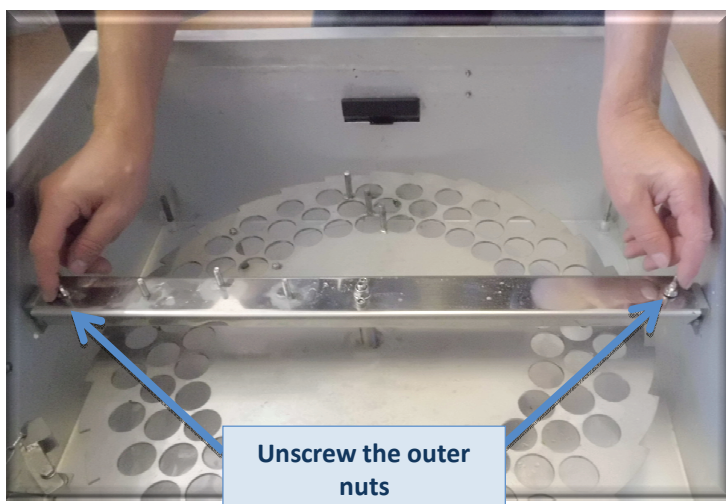
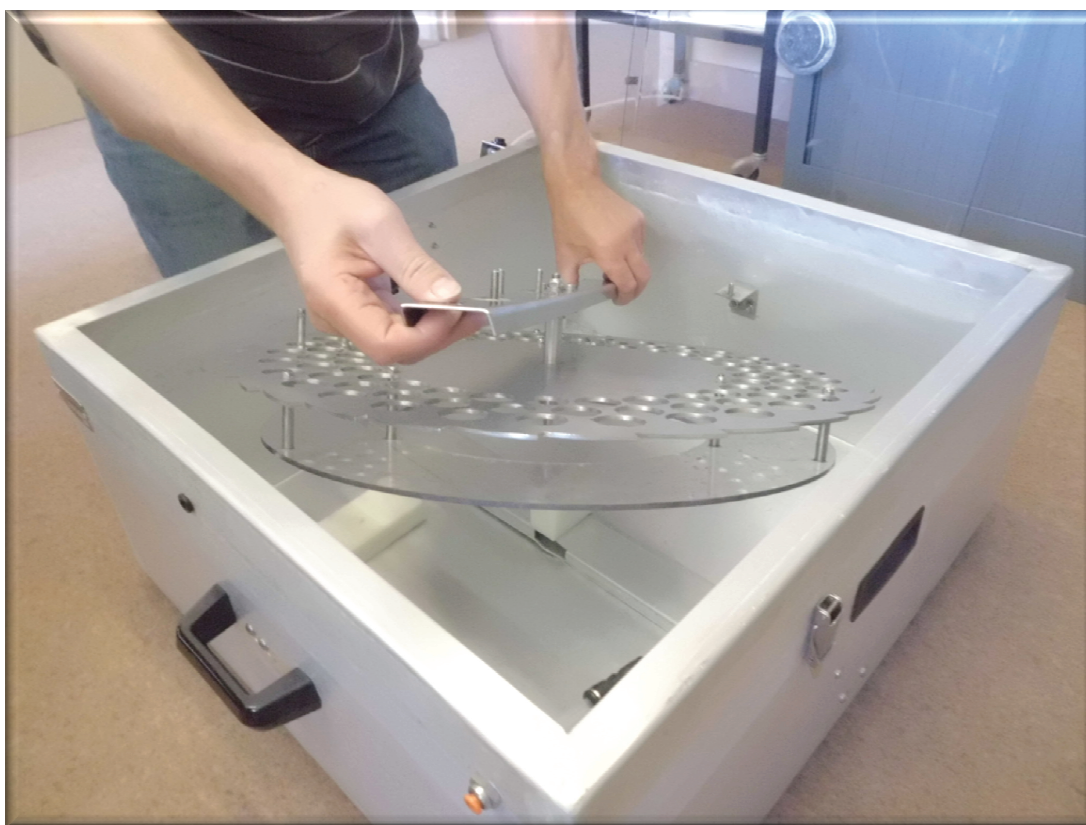


Fig. 2

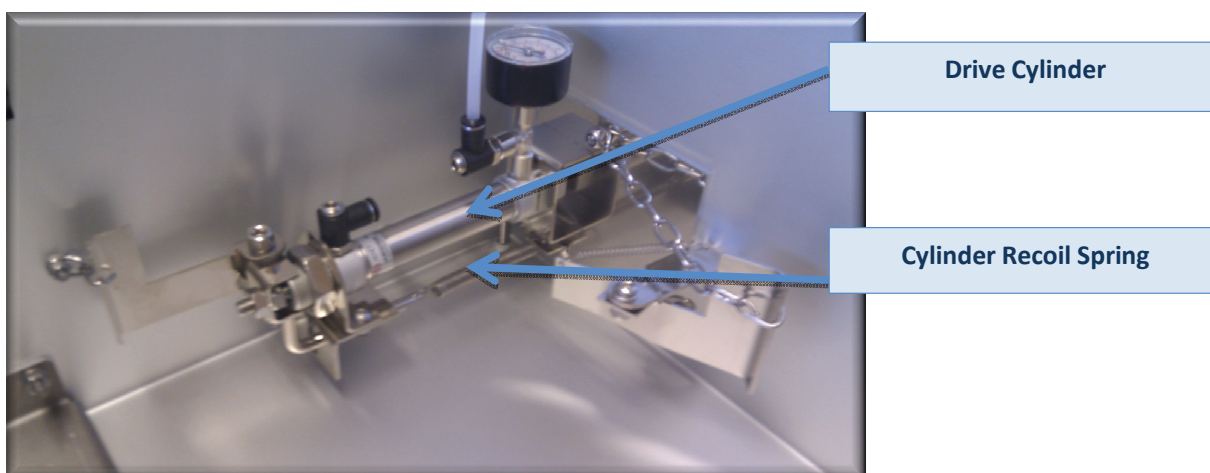
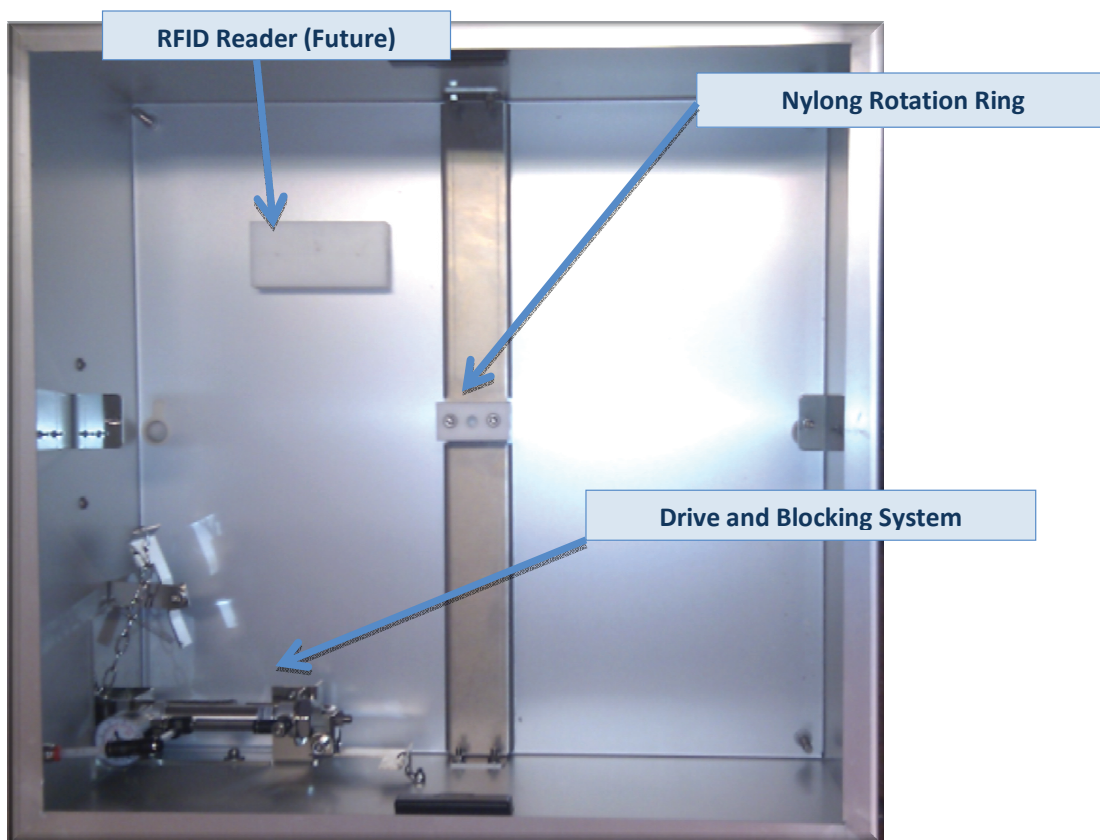




To remove the crown, it is necessary to tilt it to one side.



Care is required when handling the crown, since there is a risk of injury and also damage of the system in case of heavy impact.



Now the reassembly of the crown may be carried out, with caution not to forget to reactivate the drive system removing the stainless steel chains, the spring and the anti-return system.

## 5.6. Care and Maintenance:

The system should be checked every 6 months to ensure good performance.

### Regular Maintenance:

**Monthly:** Check the silicone hose of the filling system, and replace if necessary (it is recommended to change it every 2 months as a preventive measure and after using the device).

**Yearly:** Replace:

- The recoil spring of the drive cylinder.
- The recoil spring of the Anti-return system.

The system does not need any lubrication (it works on dry cylinders).

The cylinders must be inspected, it is necessary to change them if their performance is altered.

## 5.7. Malfunction of the Ori-Collector

Operational hazards that may occur when using the Ori-Collector

| Problems Encountered                               | Causes                                                         |
|----------------------------------------------------|----------------------------------------------------------------|
| The system does not sample cows                    | Check if the sampling sequence has been activated on the robot |
|                                                    | Check the compressed air connection                            |
|                                                    | Check the milking hose on the side of the robot                |
|                                                    |                                                                |
| The system does not work, but the bottle is filled | Check the release system of the drive cylinder                 |
|                                                    | Check the anti-return release system                           |
|                                                    |                                                                |
| The system moves 2 notches                         | Check the robot settings ( 96 Bottles)                         |
|                                                    |                                                                |
| The bottles are not filled enough                  | Check the filling times on the robot console                   |



## 6. LIST OF PARTS

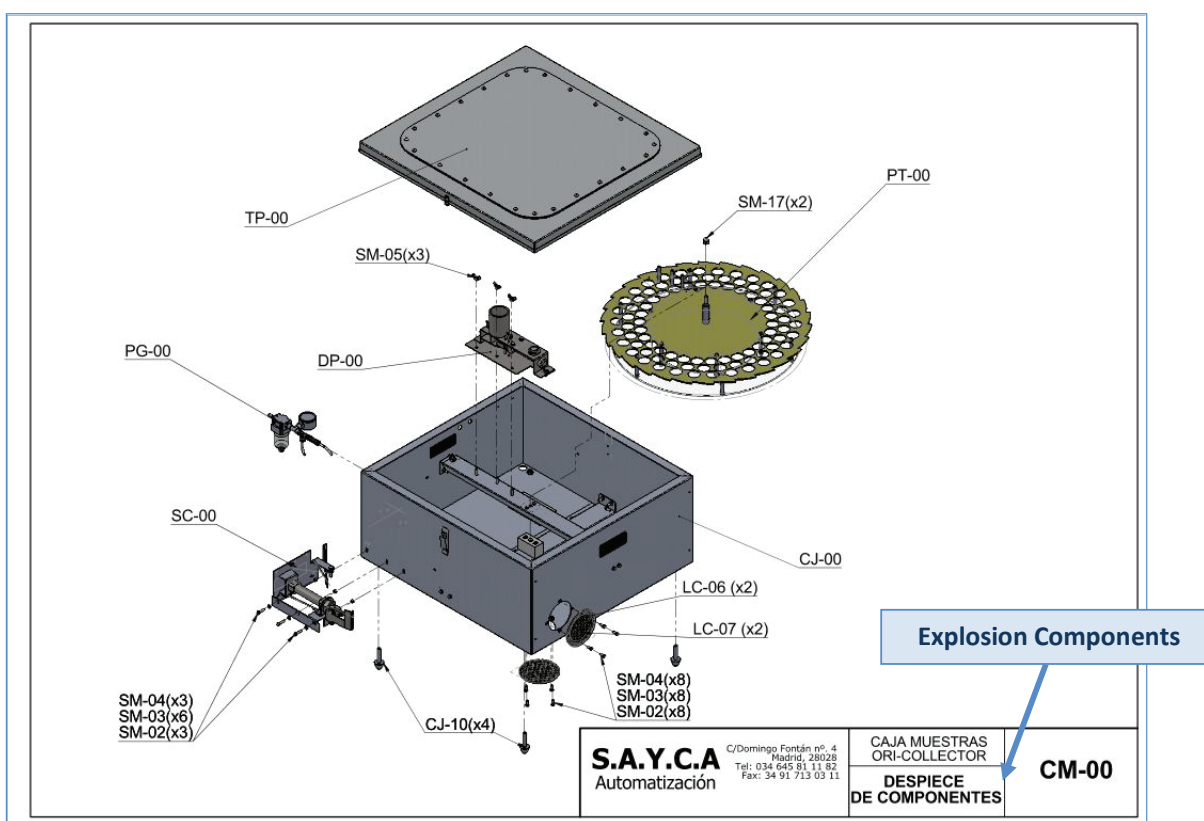
### 6.1. the connections:

Ori-Collector has two types of connections:

- Milk: Silicone Hose 4x7 Size (4mm inside, 7 mm outside).
- Compressed Air: Polyurethane 4x6 Size (4 mm inside, 6 mm outside).

### 6.2. Exploded View of Ori-Collector:

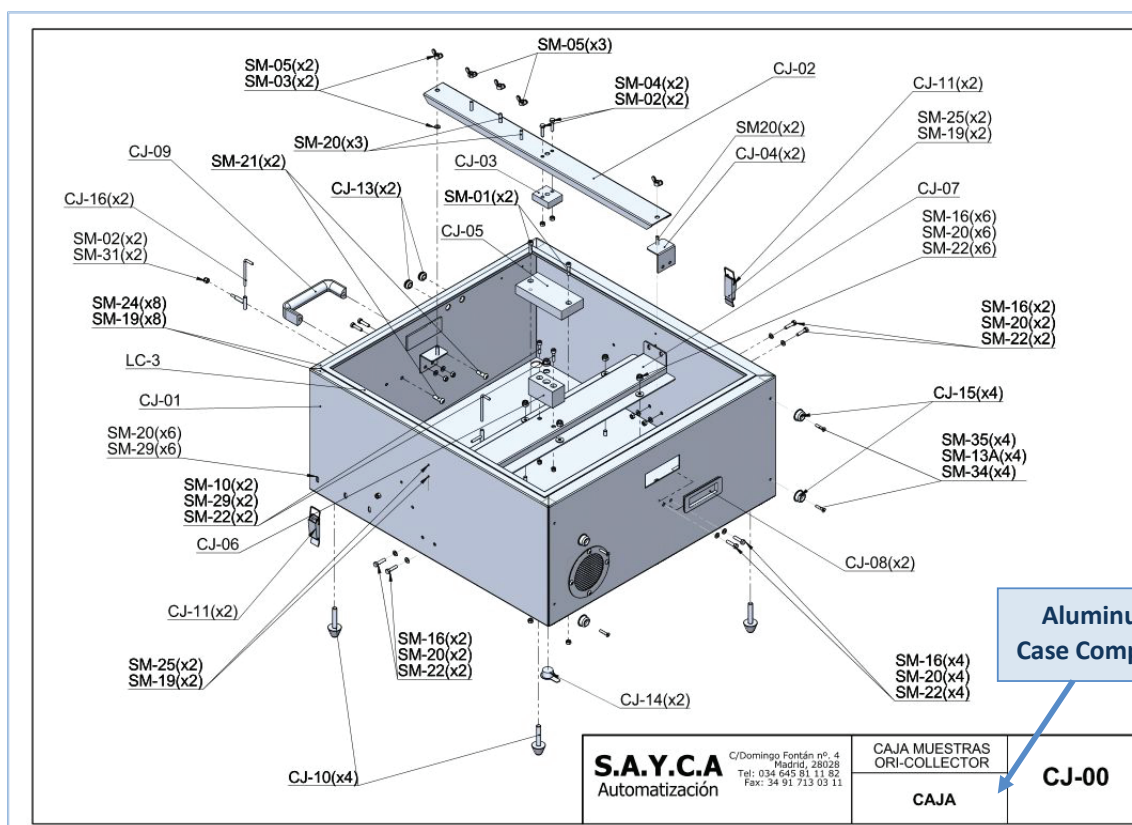
#### CM: EXPLOSION COMPONENTS



| Reference        | English                 |
|------------------|-------------------------|
| Ref.- SC-00 (x1) | Cylinder Support        |
| Ref.- DP-00 (x1) | Filling System          |
| Ref.- TP-00 (x1) | Protecting Cover        |
| Ref.- PT-00 (x1) | Stainless Steel Tray    |
| Ref.- CJ-00 (x1) | Aluminium Case Complete |

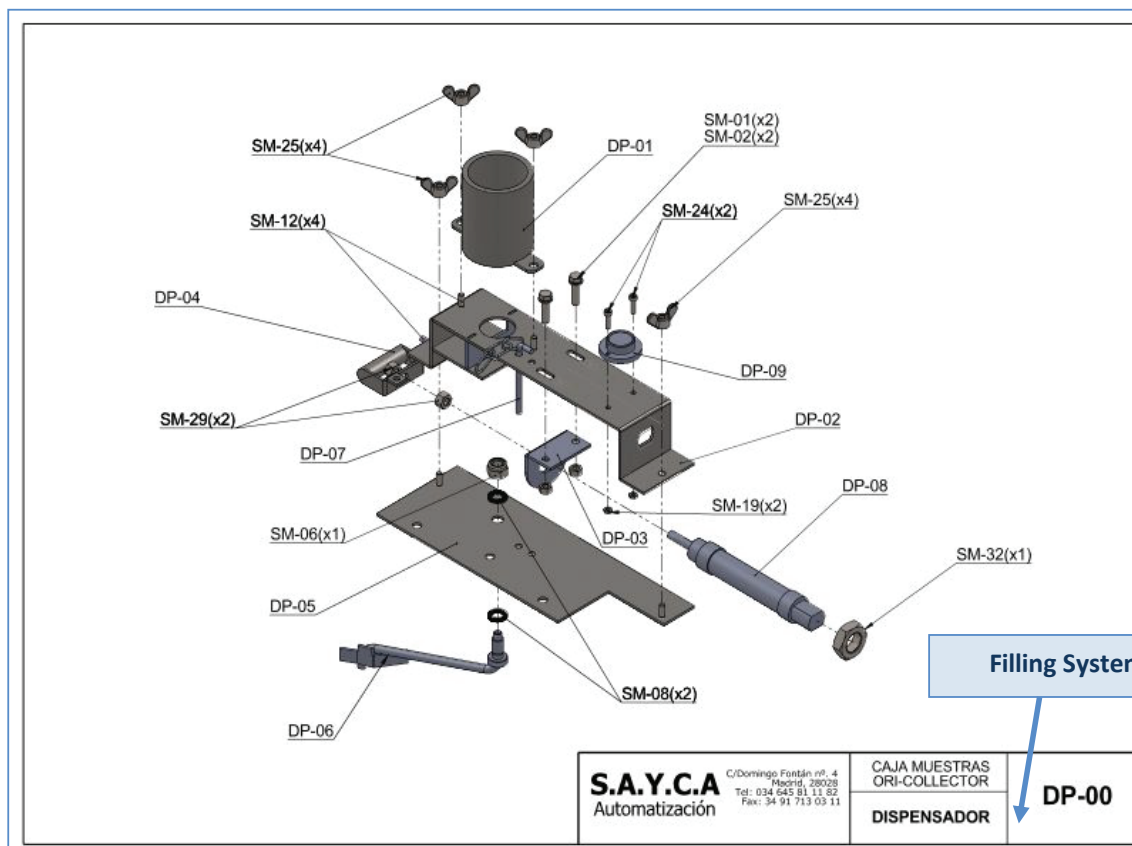


## CJ-00: ALUMINUM CASE COMPLETE



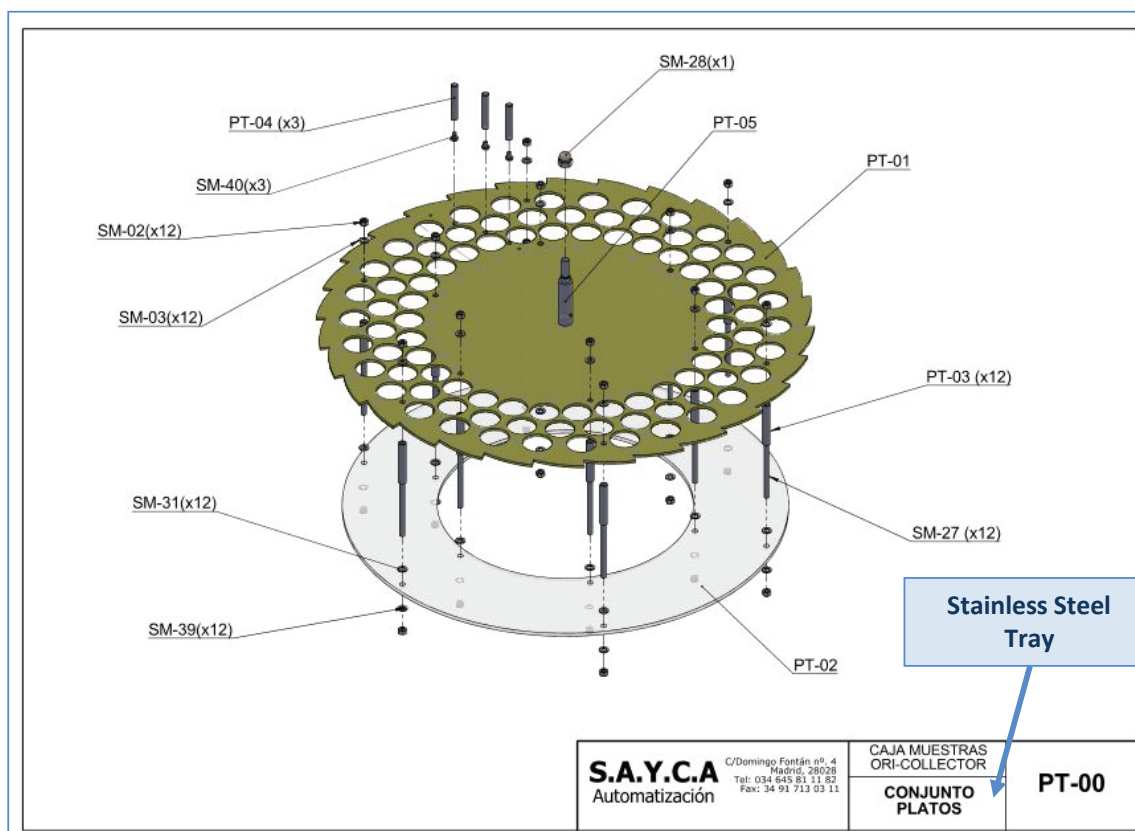
| Reference        | English               |
|------------------|-----------------------|
| Ref.- CJ-01 (x1) | Aluminum Case         |
| Ref.- CJ-02 (x1) | Crown upper support   |
| Ref.- CJ-03 (x1) | Nylon Upper Brace     |
| Ref.- CJ-04 (x2) | Upper Support Bracket |
| Ref.- CJ-05 (x1) | RFID Antenna Support  |
| Ref.- CJ-06 (x1) | Nylon Lower Brace     |
| Ref.- CJ-07 (x1) | Crown Lower Support   |
| Ref.- CJ-08 (x2) | Handle                |
| Ref.- CJ-09 (x1) | Carrying Handle       |
| Ref.- CJ-10 (x4) | Adjustable Foot       |
| Ref.- CJ-11 (x2) | Closing Case          |
| Ref.- CJ-13 (x2) | Grommet               |
| Ref.- CJ-14 (x2) | Plug                  |
| Ref.- CJ-15 (x4) | Support Legs          |
| Ref.- CJ-16 (x2) | Safety Clamping       |

## DP-00: FILLING SYSTEM



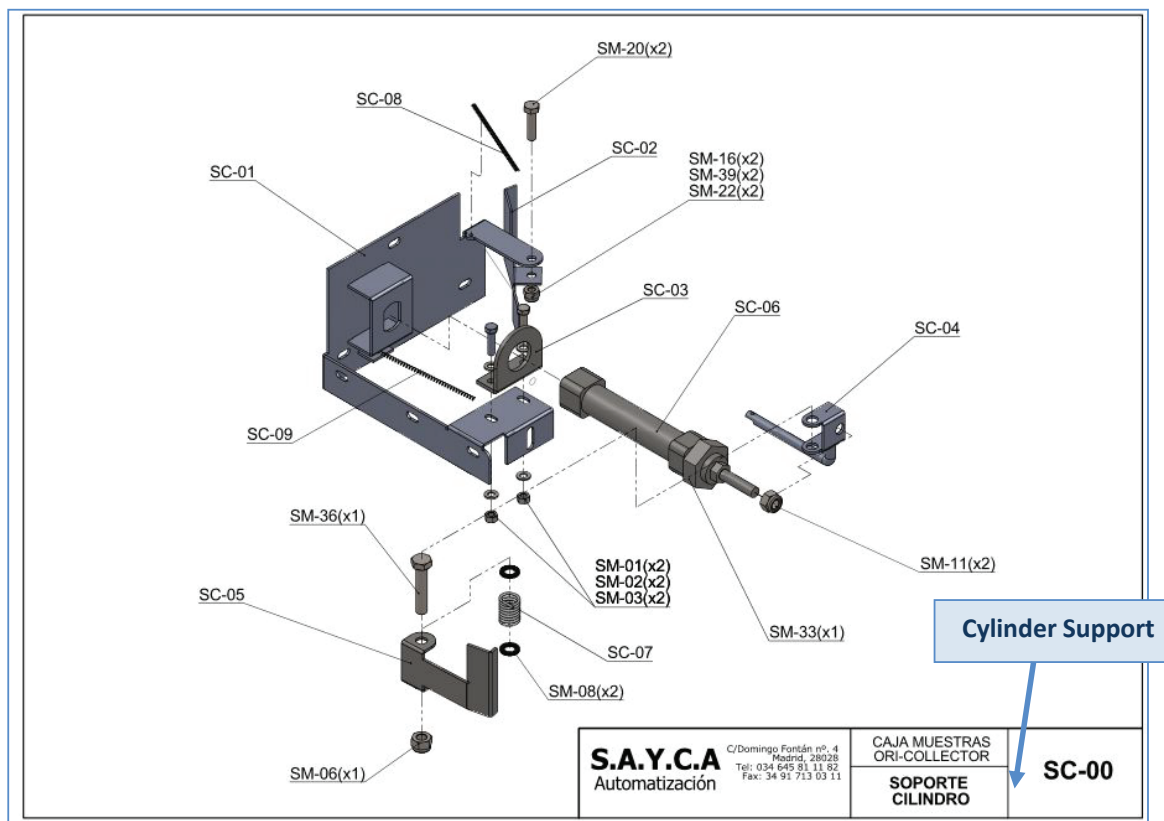
| Reference        | English                         |
|------------------|---------------------------------|
| Ref.- DP-01 (x1) | Stainless Steel Tank            |
| Ref.- DP-02 (x1) | Filling system Upper Plate      |
| Ref.- DP-03 (x1) | Clevis in Front of the Cylinder |
| Ref.- DP-04 (x1) | Cylinder Tip                    |
| Ref.- DP-05 (x1) | Lower Plate                     |
| Ref.- DP-06 (x1) | Stainless Steel Filling Hose    |
| Ref.- DP-07 (x1) | Stainless Steel Pin             |
| Ref.- DP-08 (x1) | Milk Emptying Cylinder          |
| Ref.- DP-09 (x1) | Bubble Level                    |

## PT-00: STAINLESS STEEL TRAY



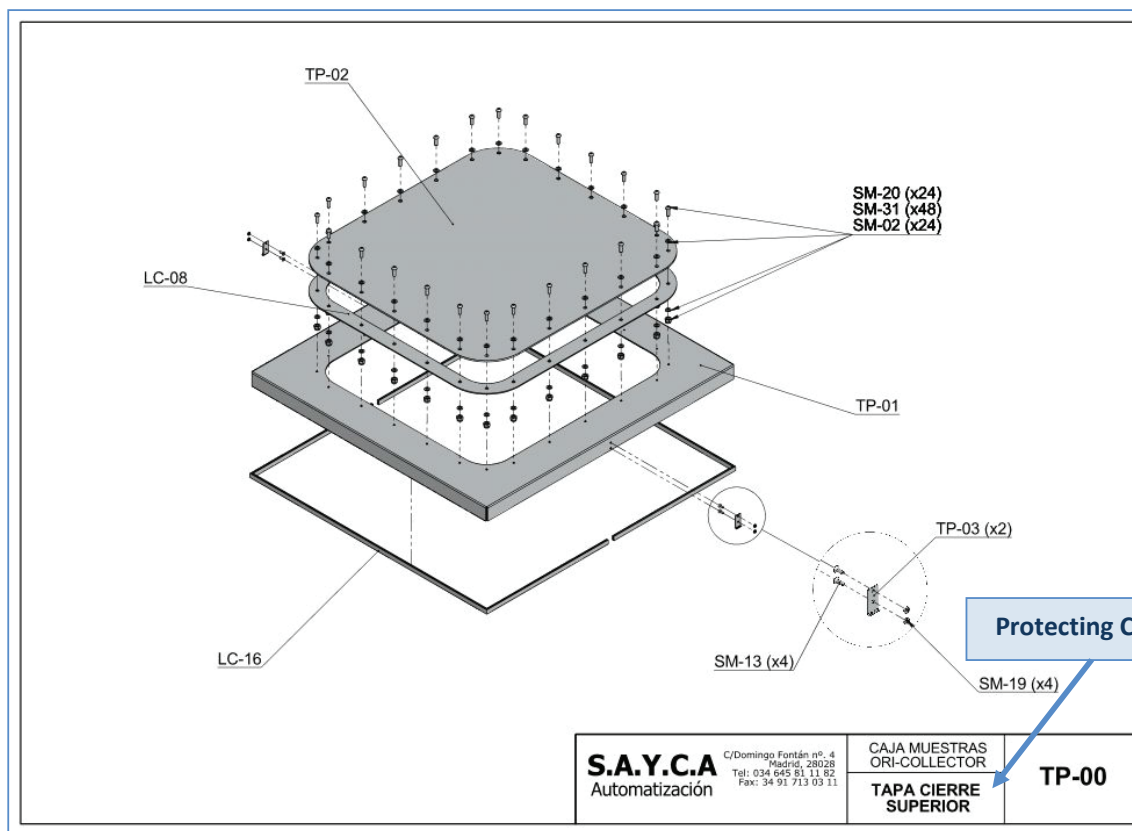
| Reference         | English                              |
|-------------------|--------------------------------------|
| Ref.- PT-01 (x1)  | Stainless Steel Crown for 90 Bottles |
| Ref.- PT-02 (x1)  | Plexiglas Support                    |
| Ref.- PT-03 (x12) | Spacer Sleeve                        |
| Ref.- PT-04 (x3)  | Spacer for tray on Stainless steel   |
| Ref.- PT-05 (x1)  | Axis Stainless Steel for Tray        |

## SC-00: CYLINDER SUPPORT



| Reference        | English                 |
|------------------|-------------------------|
| Ref.- SC-01 (x1) | Drive Cylinder Support  |
| Ref.- SC-02 (x1) | Anti-return Plate       |
| Ref.- SC-03 (x1) | Cylinder Front Clevis   |
| Ref.- SC-04 (x1) | Spring Blocking Plate   |
| Ref.- SC-05 (x1) | Cylinder Tip            |
| Ref.- SC-06 (x1) | Drive Cylinder          |
| Ref.- SC-07 (x1) | Front Clevis Spring     |
| Ref.- SC-08 (x1) | Anti-return Spring      |
| Ref.- SC-09 (x1) | Cylinder Tension Spring |

## TP-00: PROTECTING COVER



| Reference        | English                    |
|------------------|----------------------------|
| Ref.- TP-01 (x1) | Plexiglas Protective cover |
| Ref.- TP-02 (x1) | Stainless steel handle     |
| Ref.- TP-03 (x1) | Hook Closing               |





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[www.france-conseil-elevage.fr](http://www.france-conseil-elevage.fr)**