# KLR 5100

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**www.klrsystems.com**

MADE IN CANADA

DEPUIS/SINCE
1977

# Contents

# 1.0: SAFETY PRECAUTIONS


- The Bagel bagger is covered with safety doors. Opening the doors stops the machine assuring maximum safety for the operator and minimizing the accident risk. Conveyors belt are still expose. Keep hands away from mechanisms;
- The equipment described in this manual designed and manufactured to the highest KLR standards. Special attention made to ensure that the operation of the machine is safe and convenient.
- Even with the safety cover closed, keep hands away from the working machine. Do not force through gaps or from the top;
- If the system is linked to another machine or install onto another machine. Lock the electrical box of the other machines before performing any maintenance on this equipment. Please refer to the local regulations and laws on locking out machinery;
- When working in the electrical box. Disconnect the equipment at the source and use a lockout device to avoid any risk of danger. Make sure you also have the space required to complete the work to avoid any risk of danger.
- Any modifications with any aspect of the mechanical, safety, electrical design, design, or any parts connected with the equipment will void the warranty and liability of KLR Systems. If a change is required, contact KLR Systems for approval. All technical handling must be done by a qualified technician or by KLR Systems;
- KLR is not responsible for any abuse, mishandling, misuse, improper maintenance and repair by owners and users;
- Equipment must be supervised when operating;

# CAUTION

- This machine designed to be as safe as possible. Danger areas have been enclosed with guards and doors for better protection;
- Safety switches: DO NOT bypass any safety components for any reason. Violation will void all guaranties and responsibility from KLR Systems. If a safety switch is broken, the machine will not start, but the safety switch must be replaced before starting the machine;
- Safety panel (fix panel) or safety doors: As a safety, component does not try to remove or unscrew them unless it is necessary for a maintenance operation. If it is the only option, use a lockout device during this procedure and reassemble every single piece as it was when finished.
- When closing the safety doors, careful about the pinch points. Make sure nobody's hands or fingers are in the way.

# 2.0: IDENTIFICATION

## 2.1: The product brand and type designation

KLR.5100

Bagels bagger

## 2.2: Version of product

Serial number: located on the infeed conveyor close to the control panel:


Figure 2.2.1

## 2.3: Manufacturer contact:

KLR SYSTEMS INC. Packaging equipment manufacturer

Address: 944 Herons street,

City, province, country: SAINT-PIE, QUEBEC, CANADA

Zip code: J0H 1L0

Phone number: 450-388-0404

Web site: http://klrsystems.com/

# 3.0: PRODUCT SPECIFICATION

## 3.1: Safety components

This picture needs to be acknowledged before doing any type of maintenance or operation. This is a quick look of the different type of safety component and their location. The location of the Electrical box may vary according to the current installation since it is normally use in a complex conveyors system. Keep in mind this machine is a left version.

To have more information about these safety switches, see the manual directly from the manufacturer: Type 440N-Z21W1PH

https://literature.rockwellautomation.com/idc/groups/literature/documents/in/440n-in003_-en-p.pdf

- Safety switches (7)
- Emergency button
- Reset button

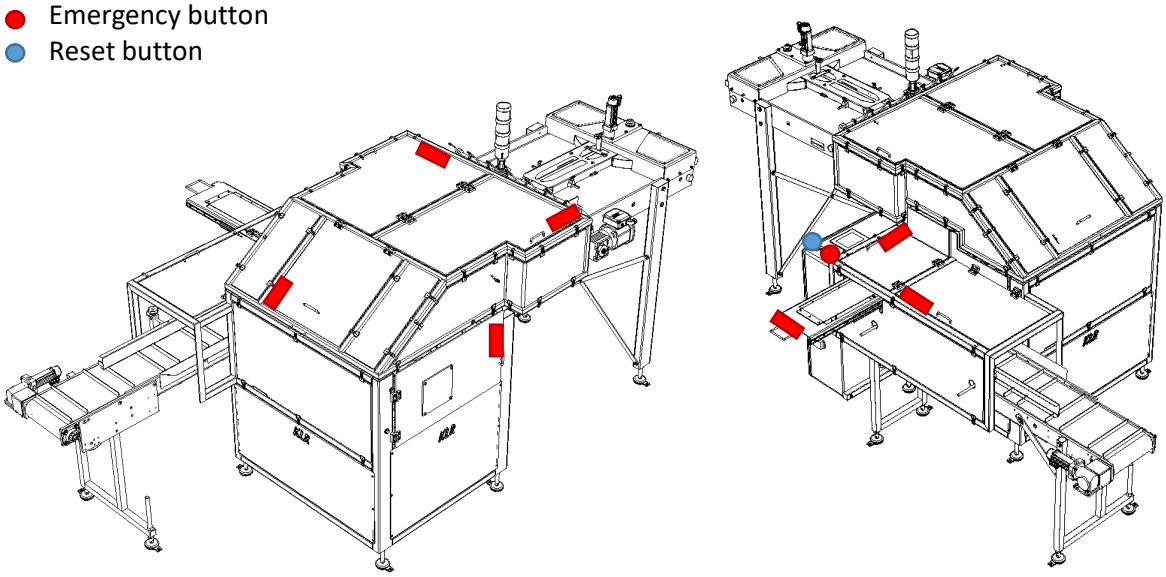


Figure 3.1.1

## 3.2: Flow diagram (right or left)

How to recognize a left and a right set up easily: You imagine yourself in front of the infeed conveyor looking in the flow direction; raise your hands on each side of the machine. The side of the machine that happens to have NO outfeed conveyor tells the side of the machine. Therefore, this following example shows a left version:

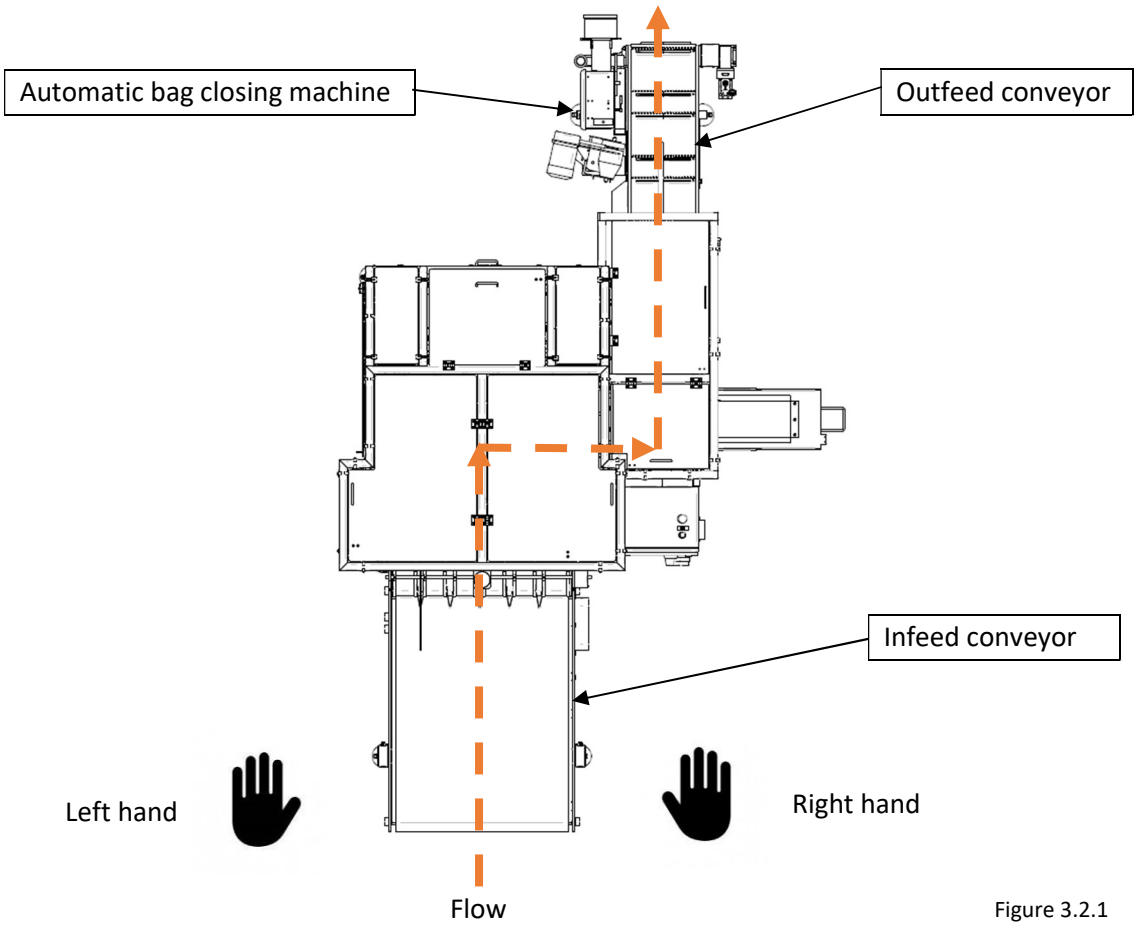



Figure 3.2.1

## 3.3: Range of applications intended use and general functions

The bagel bagger is designed to count and pack the products automatically. The bagel chutes are quickly and easily interchangeable. This machine allows adding bags while running. Here are some features:

- Speed between 40 and 50 packages per minutes;
- Can bag four, five or six bagels per bags;
- Made of stainless steel 304 and anodize aluminum;
- Equipped with an Ethernet communication device;
- Available in left hand or right hand set up;
- The automatic bag closing machines bolt pattern is adapted to this system.

### 3.4: Dimensions (for transport)

Height: 72.2 inches

Length: 91 inches

Width: 93.5 inches

### 3.5: Specification for electricity and air

This machine is intended to use these specifications:

Electrical need: 220 Volts – 15 Amps – 3 Phases – 60 Hertz

Main lead power connector is generally not drilled into the electrical box to give to the customer more flexibility.

Pneumatic need: 10 CFM @ 90 PSI

A quick connects is installed to the machine.

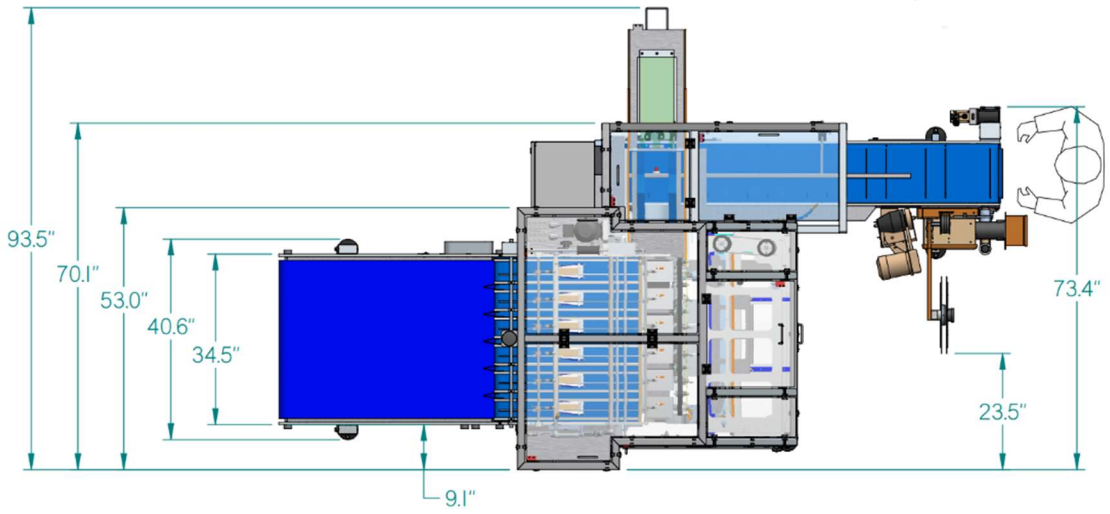
### 3.6: Bags specification

KLR systems is not responsible for the suitability of the customer bags. It is recommended to carefully select the bag type with KLR to avoid mistakes.

## 4.0: INSTALLATION

### 4.1: Minimal space required

Minimal space required to install this equipment. Be aware that the following picture is showing a right version:



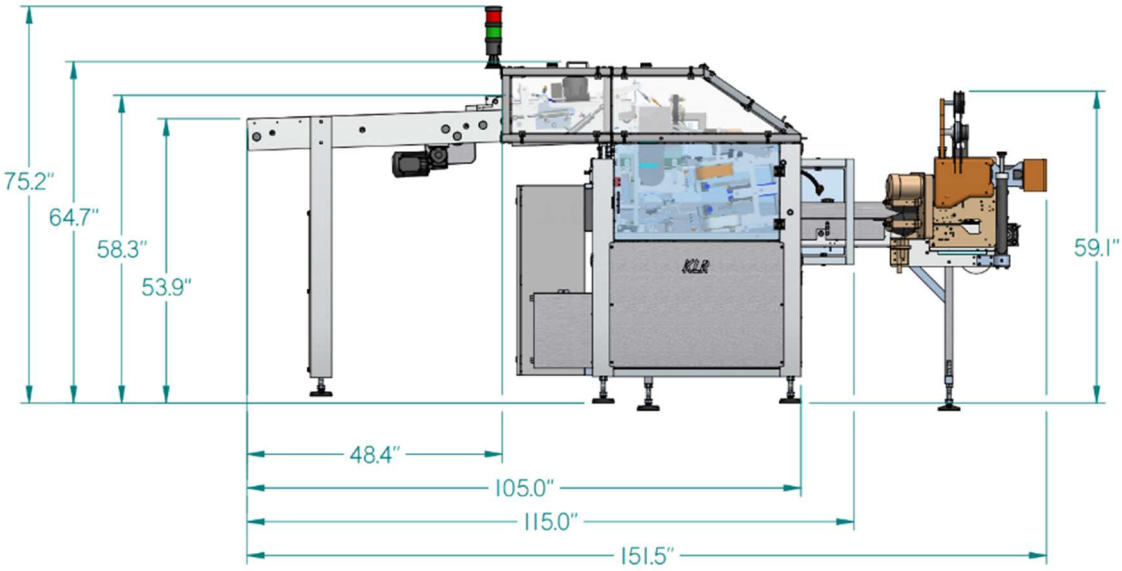



Figure 4.1.1

## 4.2: Conveyors installation

### 4.2.1: Infeed adjustment

1. The following pictures show how to adjust the infeed conveyor in relation to the buckets

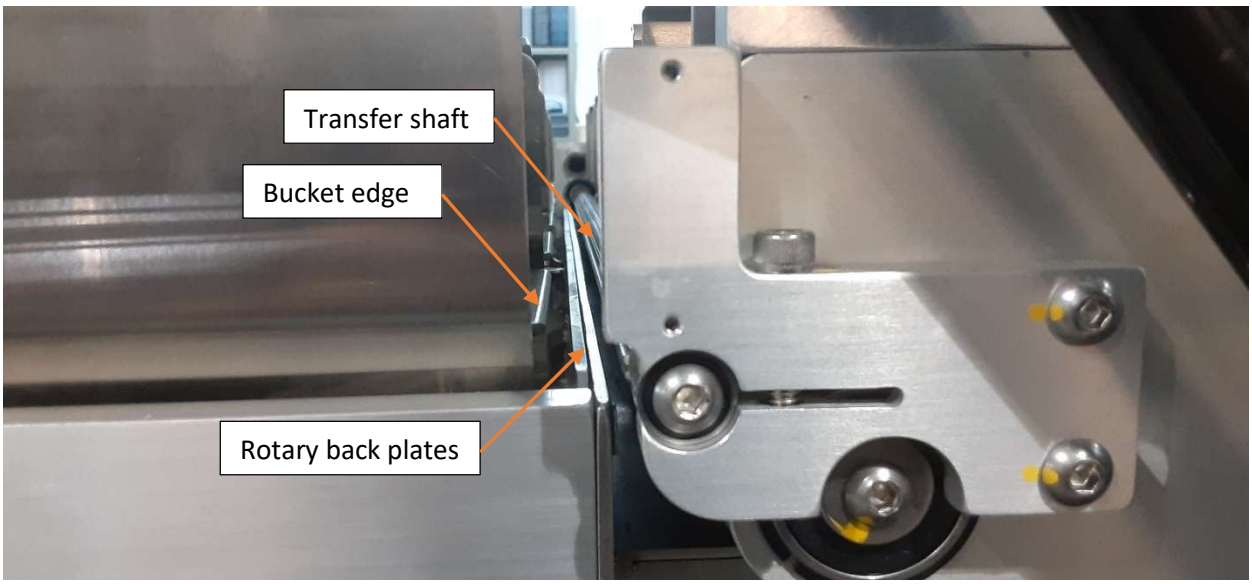



Figure 4.2.1.1

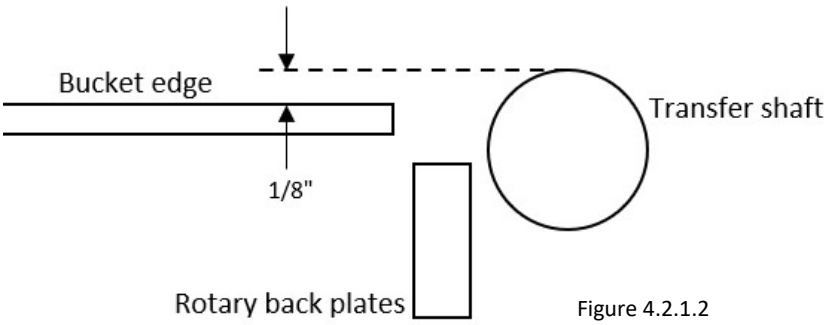



Figure 4.2.1.2

2. Use the two brackets under the conveyor for height and lateral adjustment.

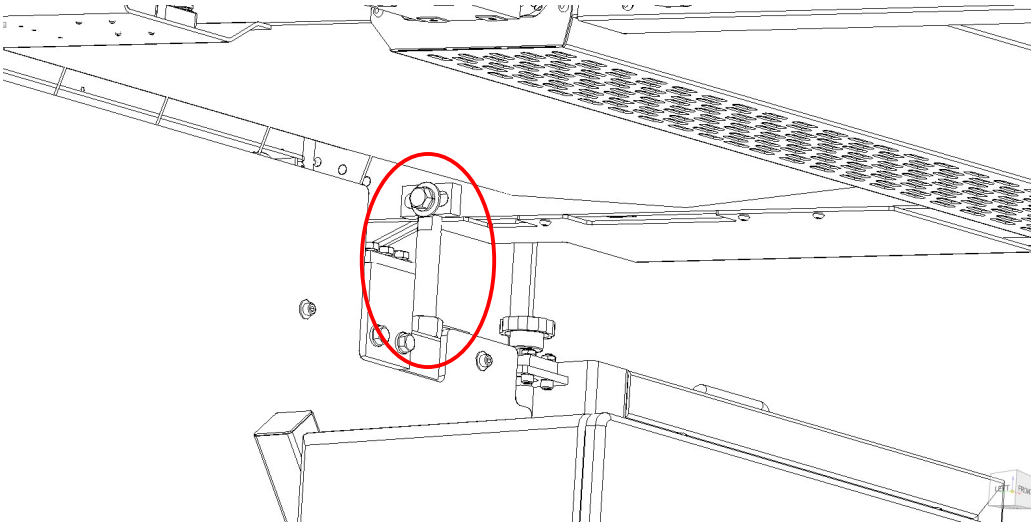


Figure 4.2.1.3

3. After adjusting the infeed conveyor, you might experience a top cover misalignment, set the cover fixtures equally on both side. Make sure the cover open freely.

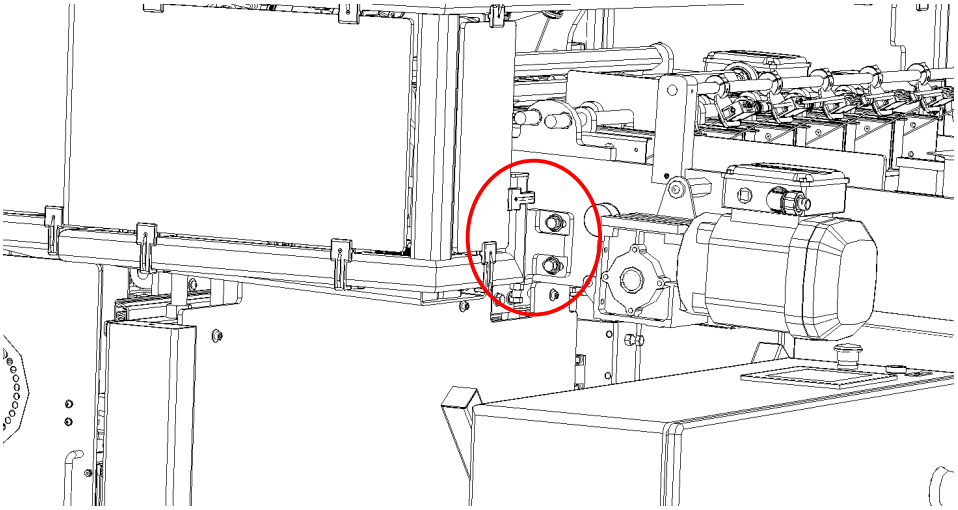


Figure 4.2.1.4

### 4.2.2: Outfeed conveyor alignment

1. Position the conveyor so the incurved guide is aligned with the bottom scoop.

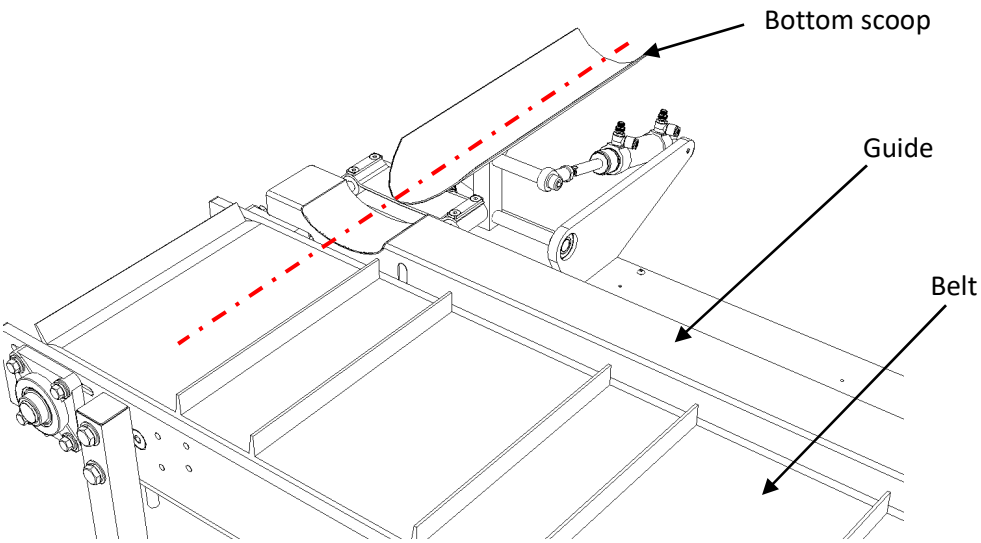



Figure 4.2.2.1

2. Make sure the conveyor guide is set to half of the product from the top of the belt.

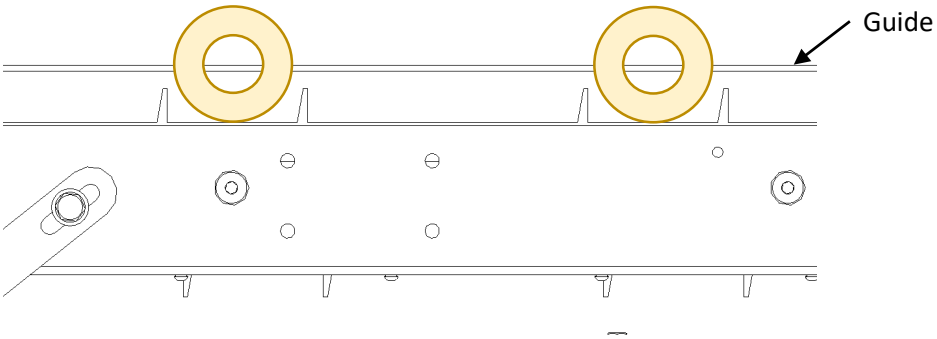



Figure 4.2.2.2

## 4.4: Requirements for fixing/anchoring the machine

After the test phase has been found to meet your requirements, drill at least one hole per legs to install anchors. Make sure the machine is well stable and will remains at this exact location.

# 5.0: OPERATION

| | |
|---|---|
|  | ➢ Before using the machine, it is important that every operator of the machine and maintenance personnel take part in a training session given by KLR systems technicians. |

## 5.1: Main page

This page is mainly used for basic operations. Here is the explanation for the functionalities:

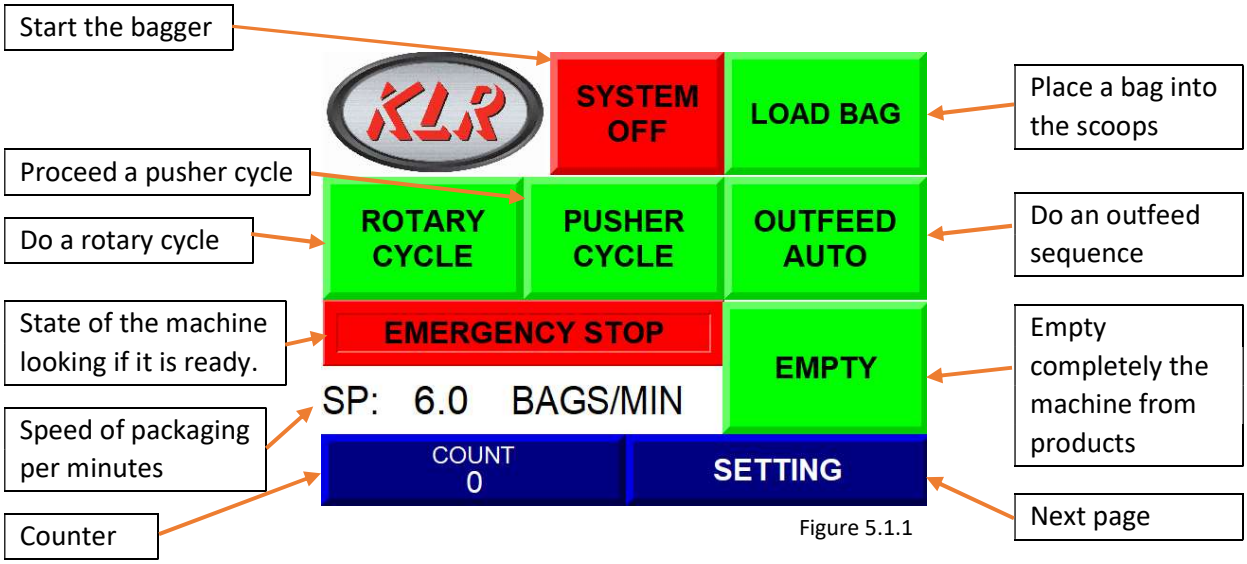



Figure 5.1.1

## 5.2: Fill bag table

1. Take the proper bags, remove rubber sleeves and bottom cardboard.

Figure 5.2.1

Figure 5.2.2

Figure 5.2.3

2. Verify that the bag openings are underneath like so.

Figure 5.2.4

3. It is possible to add bags when the bagger is running. Open the bag table door.

Figure 5.2.5

4. Align in insert the wicket rods into their holding emplacement.

Figure 5.2.6

5. Push down the bags.

Figure 5.2.7

6. If the bottom bag is too damaged, please remove it.

Figure 5.2.8

7. Remove the top cardboard;

Figure 5.2.9

8. Close the bag table door;

Figure 5.2.10

9. Pull the bag table drawer gently on the side to let the bag into position;
   Remark: You can't open both bag table door and the drawer or the machine will stop.

Figure 5.2.11

10. Close back the drawer and you should have this result;
    Remark: You might want to keep the wicket in place until you need to add more bags into the system. In case you will need to remove the bags to change brand or size: you would only need to pull up back the bags in the wicket

Figure 5.2.12

11. If it is the first time to fill the bags in the machine (otherwise it is not required): one last thing to do is press "load bag" in the main page. The machine needs to be reset and ready to do so;

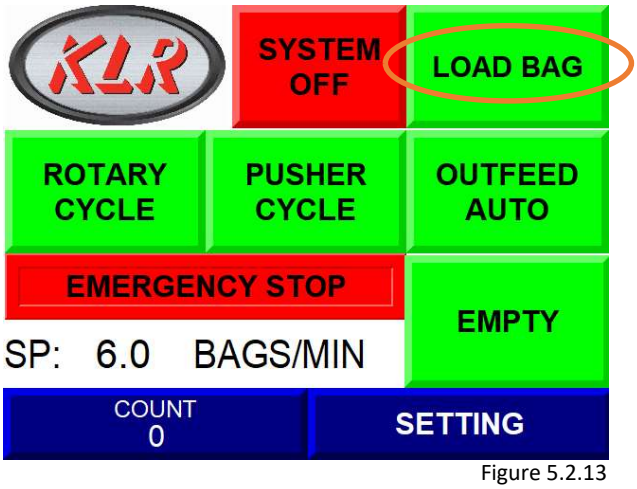



Figure 5.2.13

## 5.3: Change recipe

This bagger is using different settings according to each product. It is important not to forget to change it when needed.

You can reach this page by pressing "Setting" in the main page. To change the recipe:

12. Select the wanted recipe with the arrows;
13. Press "download" to make the machine acknowledge the recipe;

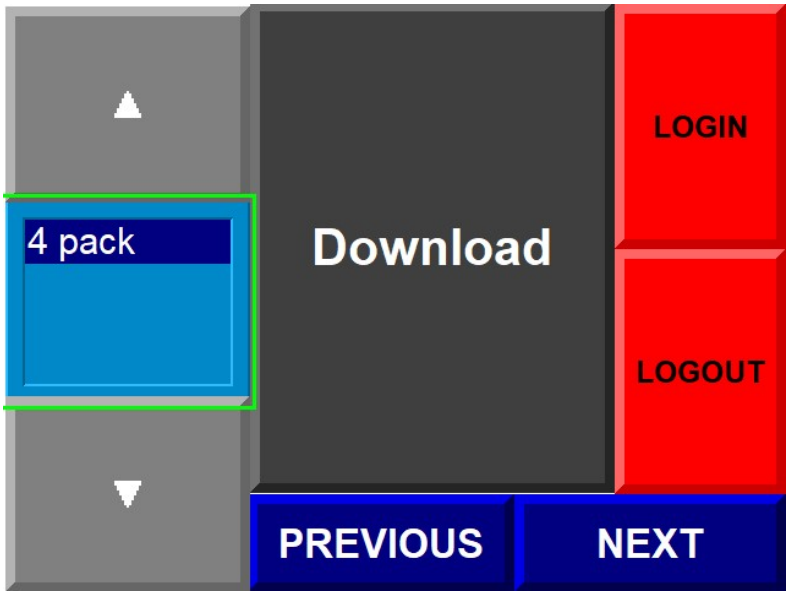



Figure 5.3.1

In this page you can also log in a user name to get access to more advance settings by pressing "login", entering the password and pressing "next". You can restrict the advance settings by log out;

## 5.4: Start the bagger

To start the bagger, you may want to check first the state of the machine:

- A green READY say that the machine is waiting for the system ON/OFF button to be pushed;
- An yellow box says that a door is not completely closed or the reset button hasn't been pressed;
- A Red box would say the machine is not ready, usually emergency button pressed;

# 6.0: MAINTENANCE AND CLEANING

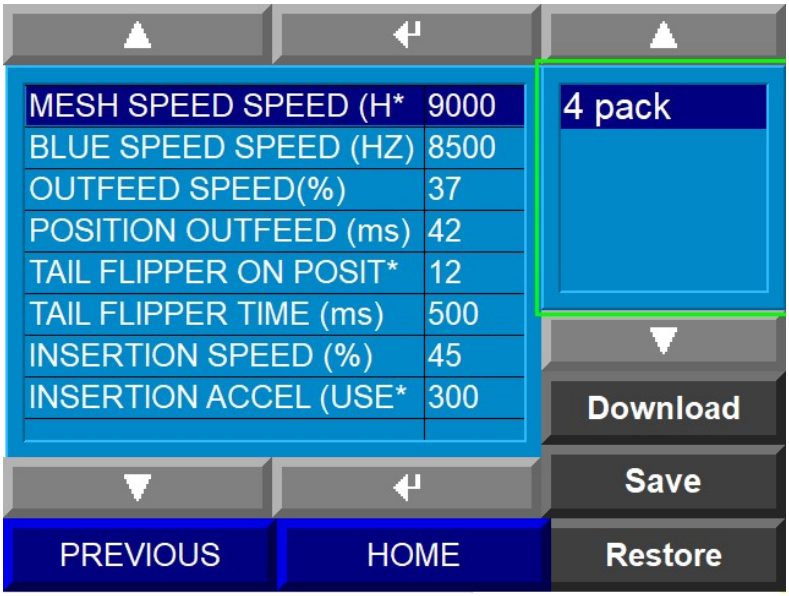
## 6.1: Preventive maintenance schedule

Here is a quick way to take care of your machine by a preventive maintenance schedule. Due to the complexity of our machine, take note that these procedures are only advice and are subject to change. These time intervals will change according to the usage of the machine:

| PREVENTIVE MAINTENANCE SCHEDULE | | | |
|---|---|---|---|
| **Location** | **Procedure** | **Time interval** | **Remarks** |
| Outfeed | 3 greasing ports | 3 months | Change greasing ports if leaking. |
| Pushers bearing | 1 greasing ports on each bearing | 3 months | Change greasing ports if leaking. |
| White belt on chute | Verify belt tension and Visual inspection | 3 months | None |
| Belt infeed and transfer belt | Verify belt tension and visual inspection | When belt change or if needed | None |
| Belt pusher | Verify belt tension and visual inspection | When belt change or if needed | None |
| White pusher belt | Verify belt wear, crack in the transparent plastic | 3 months | If it happens to have a transparent plastic with a crack, there are other pivots installed on the belt |
| Safety | Verify safety devices | 1 months | None |
| Door piston | Verify leakage | 3 months | Change if there is a leak to prevent injury |
| Cleaning | Air blow and spray with Alco spray® | daily | For more safety, always turn the power supply OFF |

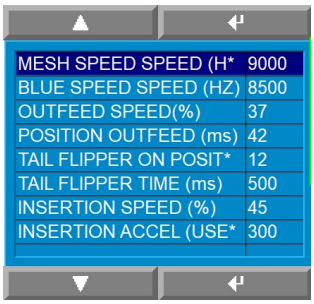
## 6.2: Recipe parameters (Advance settings)

Here you can change almost every parameter of the machine and fine-tuning a typical production. **Careful:** These parameters can drastically change the way the machine work, make it loose efficiency or even malfunctioning. **Only** people who have fully understood these parameters should perform that kind of change ;




In order to change a parameter, follow these instructions:


1. Select the recipe you want to work with by using these arrows:
2. Press "RESTORE" to show the selected recipe parameters;
3. Select the parameter you want to change by using the arrows to the left and by pressing enter: 
4. Proceed to the change;
5. Press "SAVE" and "DOWNLOAD" to save the parameter;



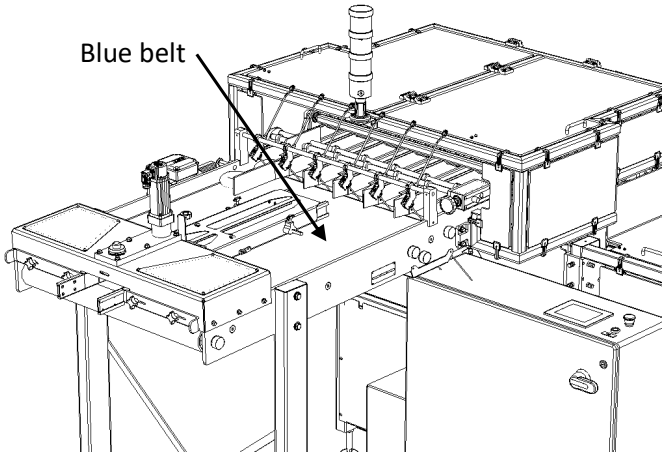
### 6.2.1: Recipes parameters explanations

**Note:** Keep in mind that the following pictures are from a left version:

**Blue belt speed (Hz)**

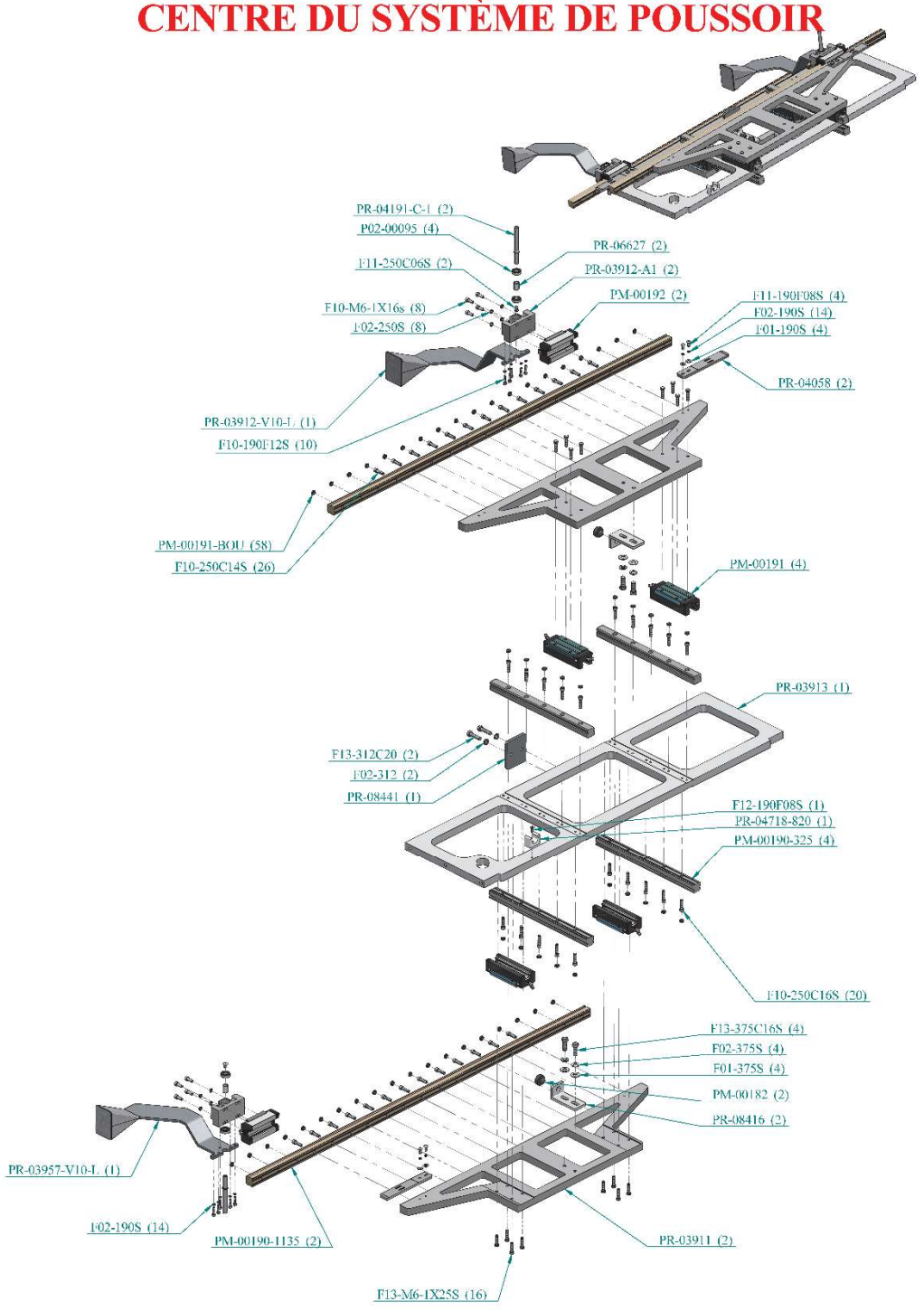
The infeed conveyor is split into two belts. This parameter will change the speed of the infeed conveyor (blue belt). The value on the display is in hertz multiplied by 10 (Hz x10). Raise the number will raise speed. Most of the time, value will be between 5000 and 7000, but can be raised up to 9000.

Figure 5.6.1


Blue belt

SYSTEMES KLR SYSTEMS Inc

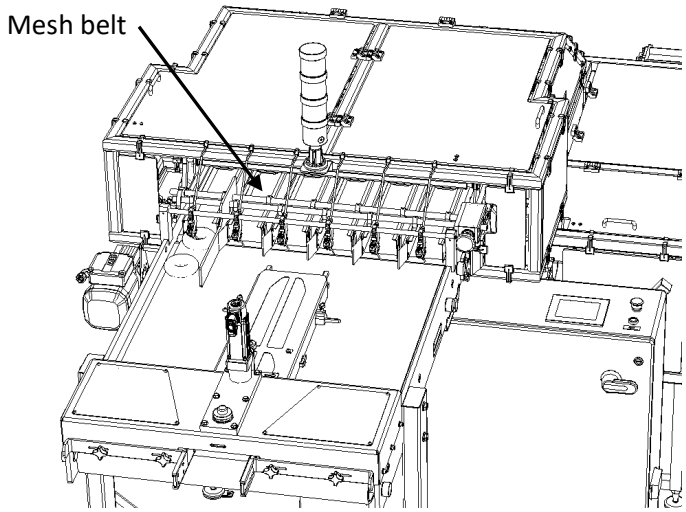
# PUSH SYSTEM CENTER/
# CENTRE DU SYSTÈME DE POUSSOIR




**Mesh speed (Hz)**

The infeed conveyor is split into two belts. This parameter will change the speed of the infeed conveyor (mesh belt or stainless belt). The value on the display is in hertz multiplied by 10 (Hz x10). Raise the number will raise speed. Most of the time, value will be between 5000 and 7000, but can be raised up to 9000.

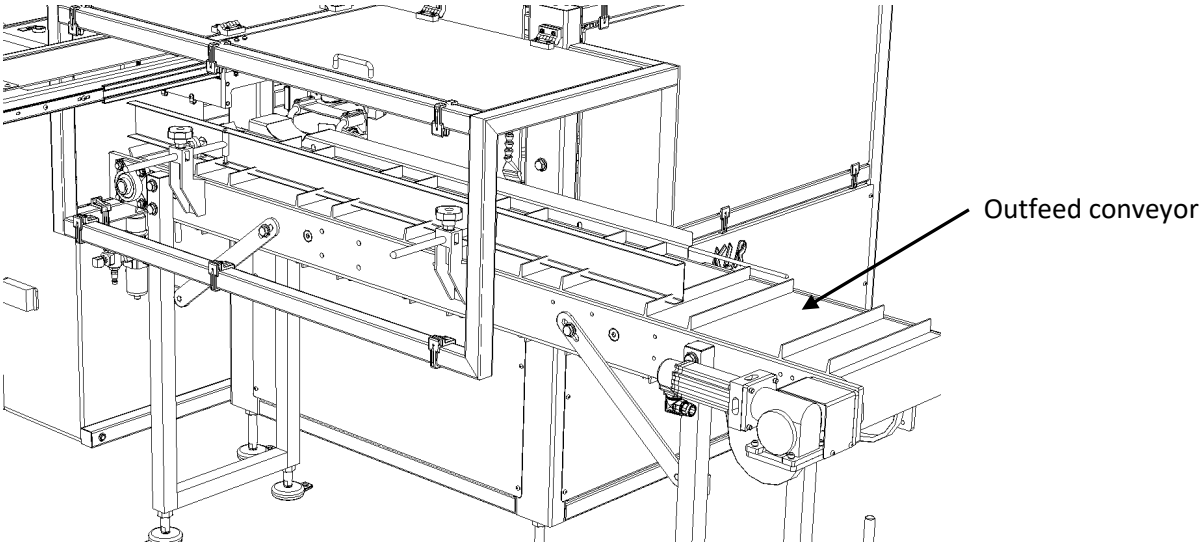
Figure 5.6.2




**Outfeed speed (%) <u>present only in 2018 model and before (see serial number)</u>**

Value is equal to the capacity of the outfeed motor in percentages. Raise the number will raise the speed of every cycle. Speed of the conveyor should be similar to the pushers speed when it travels parallel each other.

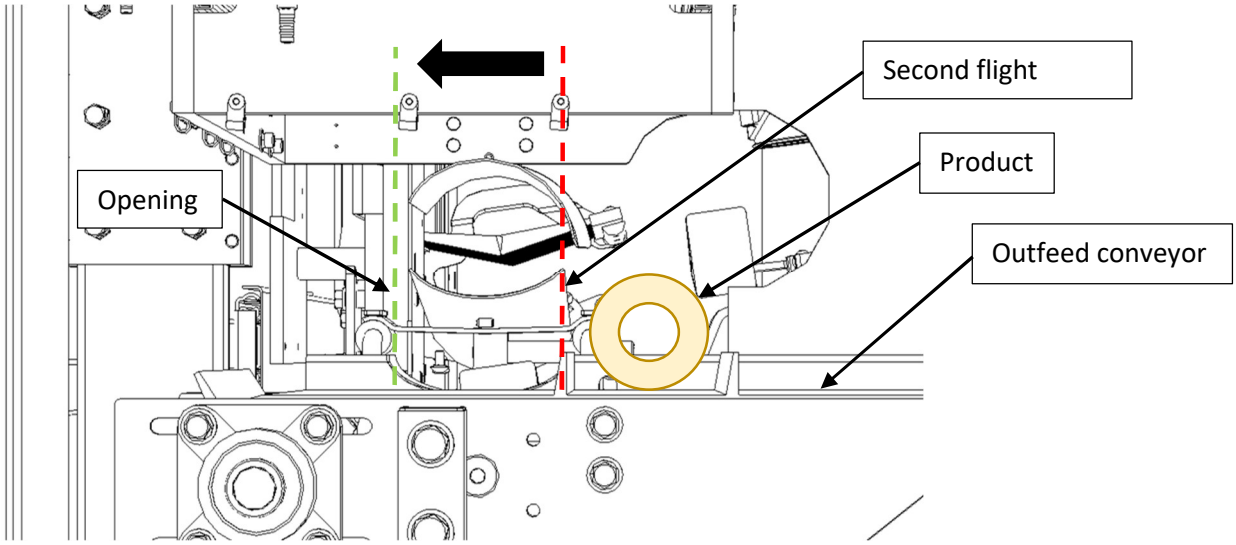
Figure 5.6.3



**Position outfeed (ms) (Present only in 2018 model and before)**

There is a sensor triggered by each section (flight). The value of this parameter is the time in milliseconds it takes to the outfeed to stop after the sensor has detected one flight. Each cycle, the flight must stop align with the opening. In the next picture, the outfeed has stopped too far from the opening. In this case, the value must be reduced until the second flight reach the green line.

Figure 5.6.4

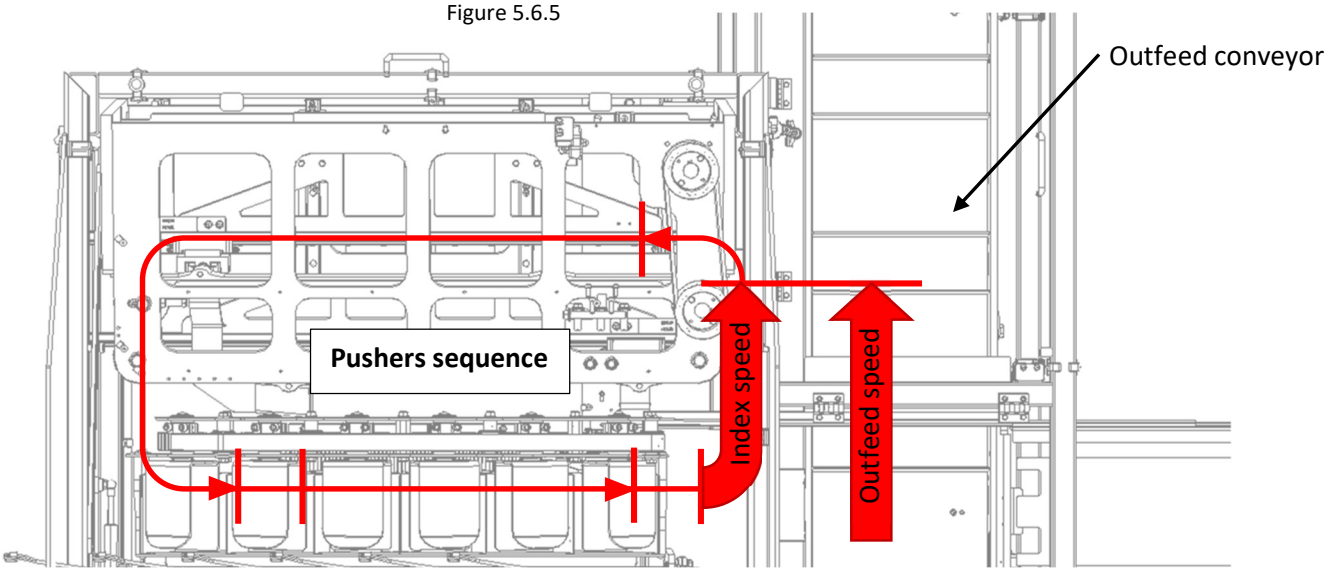



**Outfeed speed (Un/Sec) (available in 2020 model and after or when programme is updated)**

Speed of the outfeed conveyor in units per seconds (not a measure per seconds). To be set so it moves simultaneously with the pushers in indexation (index speed).

Note: Pushers sequence will be explained later in the document

Figure 5.6.5




Top view

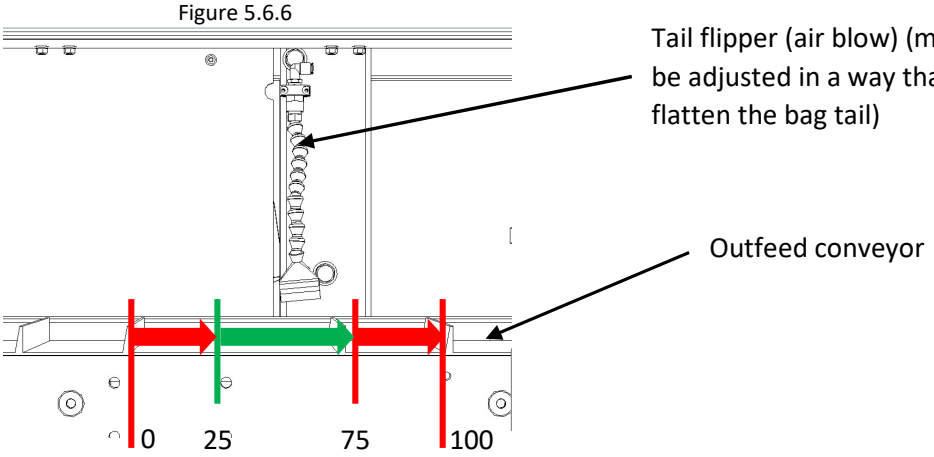
**Outfeed start position (<u>available only in 2019 model and after or when programme is updated</u>)**

The outfeed is always travelling in relation with the pushers to get best results. One pusher cycle is equal of travelling from 0 to 100. Outfeed start position parameter determine when the outfeed is going to trigger one cycle according to the position of the pushers. <u>For example</u>: outfeed start position is at 75. The pusher starts his cycle from 0. When it reaches 75, then the outfeed conveyor will go.

**Tail flipper ON position and Tail flipper OFF position (%)**

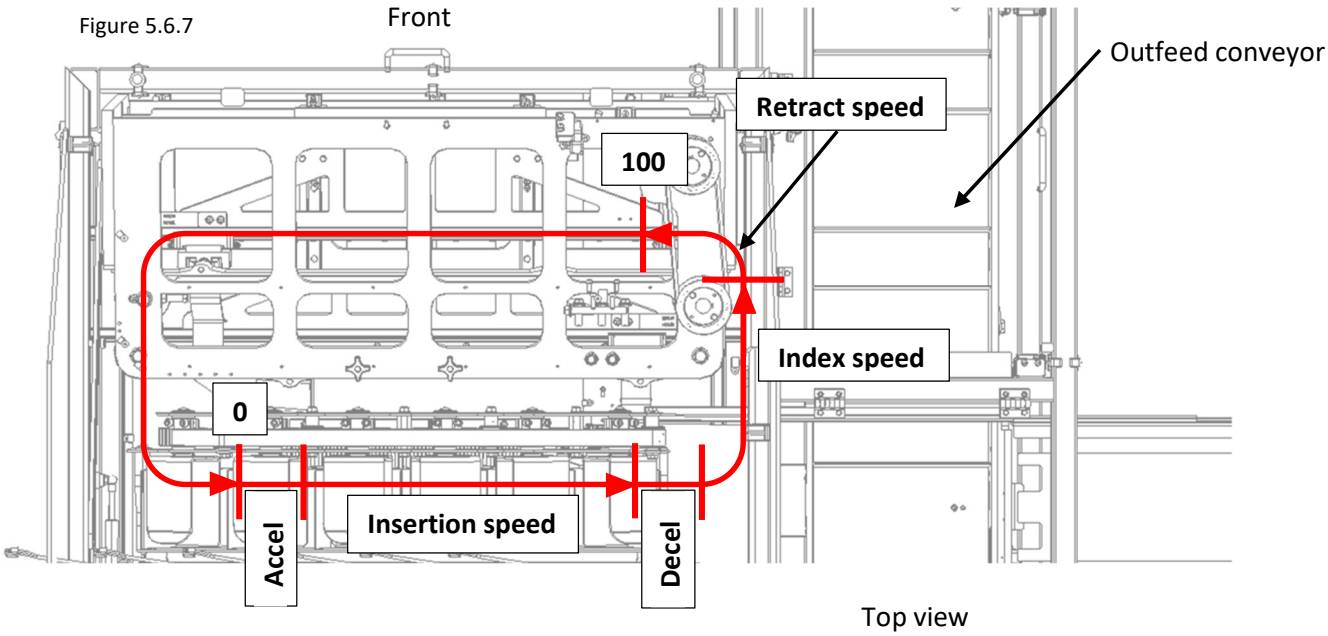
One outfeed cycle is equal of travelling from 0 to 100. The tail flipper blower will wait until the outfeed reaches the ON position before starting to blow. Then, it will blow until the outfeed reaches the OFF position. See the example below: Tail flipper ON is set to 25 and Tail flipper OFF is set to 75.

Figure 5.6.6




This following picture is used to describe the next couple parameters:

Figure 5.6.7



**Insertion speed (%) (see figure 5.6.7)**

Speed of the pushers in percentage. 100 means 100% of his capacity;

**Insertion accel (Insertion prod accel) and Insertion decel (Decel pusher) (see figure 5.6.7 and 5.6.8)**

Insertion acceleration is the factor that the pusher is gaining speed before going at the insertion speed. A too high value will make the machine rough and a too small value may result in a smaller insertion speed than anticipated because acceleration would take more time than the whole sequence minus the deceleration time. Same idea with the deceleration.

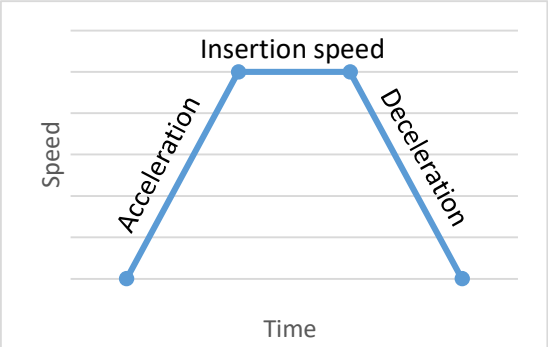



Figure 5.6.8

**Index speed (%) (see figure 5.6.7)**

Each pusher cycle has 3 different speeds: Insertion speed and index speed. Index speed is happening in parallel with the outfeed conveyor. 100 means 100% of his capacity. This speed is usually quite lower than insertion speed.

**Index position (%) (see figure 5.6.7)**

Position between 0 and 100 the pusher needs to turn to index speed. Normally use to travel along with the outfeed conveyor at the same speed.

**Retract speed (%) (see figure 5.6.7)**

Retract speed is the last step before reaching the end of the cycle. To be adjust if the bag tends to get stuck on the pusher when it pulls back. Raise the value will make the pusher go faster for this step. This value is the speed of the pusher in percentage according to his capacity.

**Retract position (%) (see figure 5.6.7)**

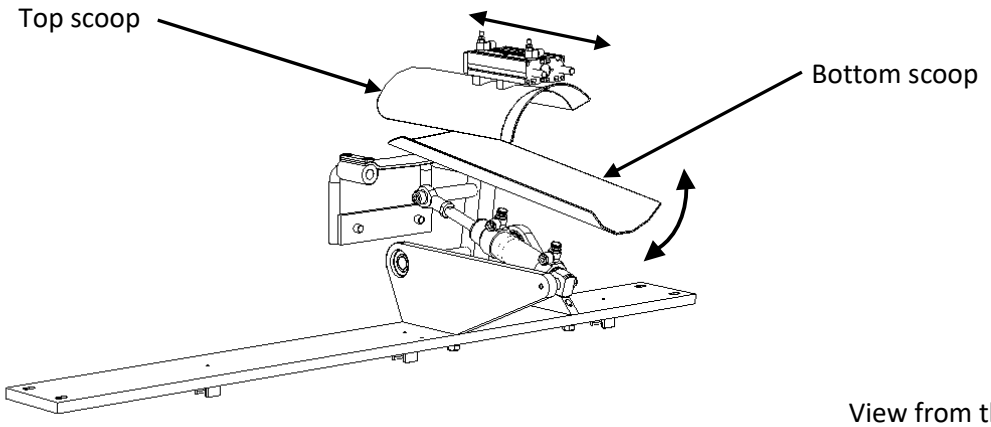
Position between 0 and 100 the pusher needs to turn to retract speed. Normally use to pulls back from inside the bag at the right time.

**Start bag sequence (%)**

The bag sequence is the group of actions the machine does to inflate and hold one bag. Start bag sequence is the position between 0 and 100 the bag sequence will initiate when the pusher cycle reaches this number. The bottom scoop and top scoops will open at this time. Moreover, the starter blower and the main blower will inflate the bag at this time.

This following picture is used to describe the next couple parameters. A lot of components have been removed to clearify the image:

Figure 5.6.9




View from the side door

**Bottom scoop time (ms) (see figure 5.6.9)**

After the start bag sequence position, the machine waits that time in milliseconds before closing the bottom scoop back to hold one bag.

**Top scoop time (ms) (see figure 5.6.9)**

After the start bag sequence position, the machine waits that time in milliseconds before closing the top scoop back to hold one bag. Usually a bit faster than the bottom scoop.

**Delay start blower (ms)**

Starter blower or main blower take care of inflating the bag. The value is in milliseconds. Once the bag sequence has begun, the machine waits that delay to start the blowers.

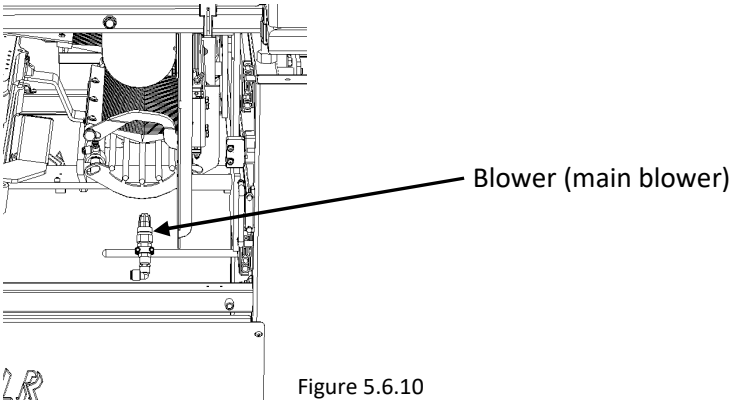



Figure 5.6.10
View from the side door

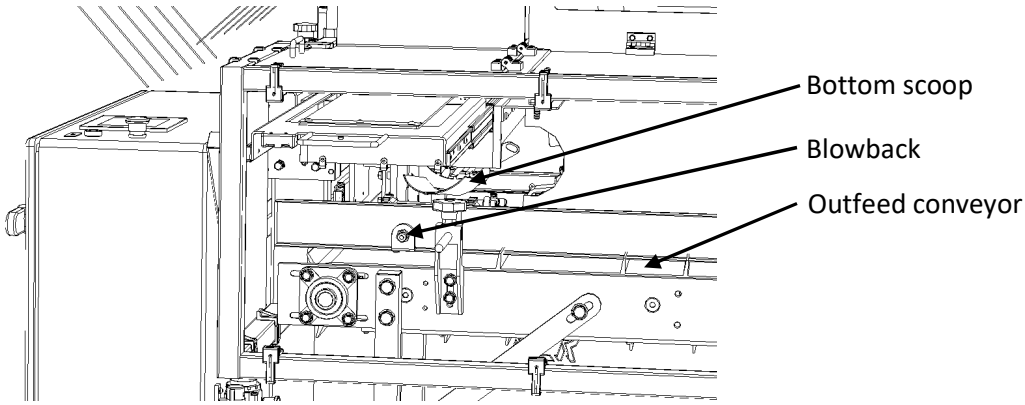
**Delay stop blower (ms) (see figure above)**

Delay in milliseconds to stop the blower in the bag sequence.

**Blowback ON position (%)**

Blowback is the blower that retract the bag toward the product, to be able to receive the products at the bottom and avoid compressing the air inside it. The position in percentage is equal of the position of the pusher when it travels between 0 and 100. When the pusher reaches this number, the blowback starts.

Figure 5.6.11

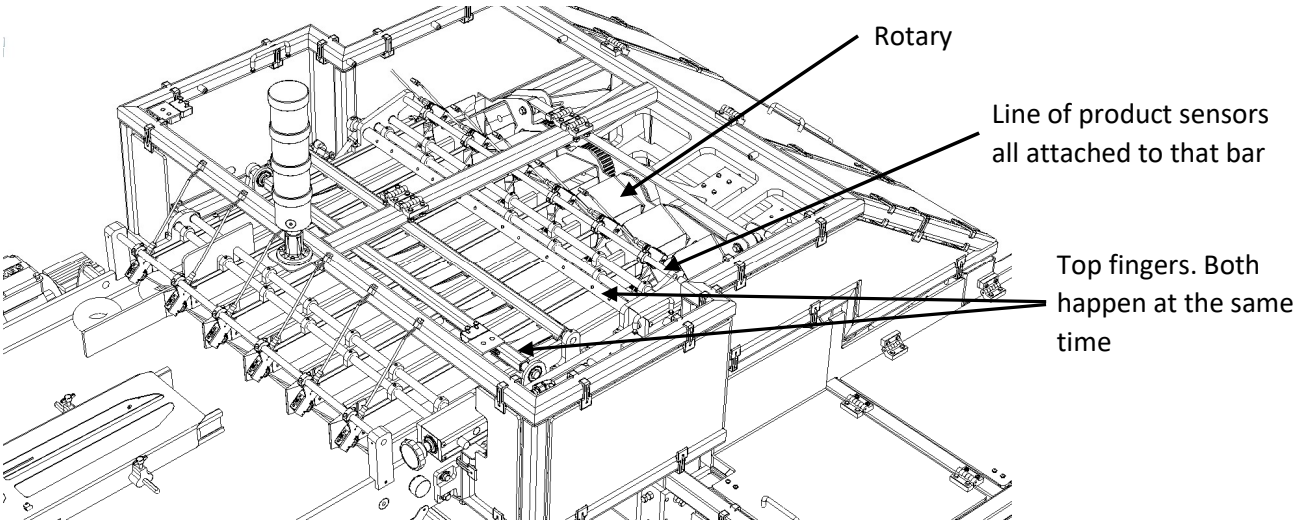



**Blowback OFF position (%) (see figure 5.6.11)**

The position in percentage is equal of the position of the pusher when it travels between 0 and 100. When the pusher reaches this number, the blowback stops. Do not put smaller value than blowback ON position.

This following picture is used to describe the next couple parameters.

Figure 5.6.12




**Delay start rotary (ms) (see figure 5.6.12)**

Delay in milliseconds before rotation of the rotary when all products have been detected by the product sensors (all of them). A too short delay may jam the machine or damage products. However, a too long delay will affect the efficiency of the machine.

**Delay rotary return (ms) (see figure 5.6.12)**

Delay before rotating back the rotary. To be set when all the products leave the chute, landed correctly onto the basket and the pusher has inserted the products in the bag.

**Delay close top fingers (ms) (see figure 5.6.12)**

Delay in milliseconds needed before closing the fingers. Set enough time to let one row of product pass.

**Delay open top fingers (ms) (see figure 5.6.12)**

Delay in milliseconds before opening the top fingers. Use to make sure all the 6 sensors have steady signals and every line has one product. Value should be rather small.

**Delay rotary accept prod**

Once the rotary has returned to the receiving position, it is the delay the machine waits before sending another row of products.

**Bypass double sensor (close)**

When set to 1, the machine will not acknowledge double product. Only bypass if the machine does a lot of false double and it is not true. If a true double happens, the rotary will break this product in half and the machine may miss bag twice or more.

**Bagels per bags**

This parameter tells the machine how many products to put in a bag between 4 and 6 (some machines are designed for up to 8)

**Dispatch speed**

Speed between 0 and 100 in percentage that the dispatch travel left to right. 100 means max speed allowed for this motor.

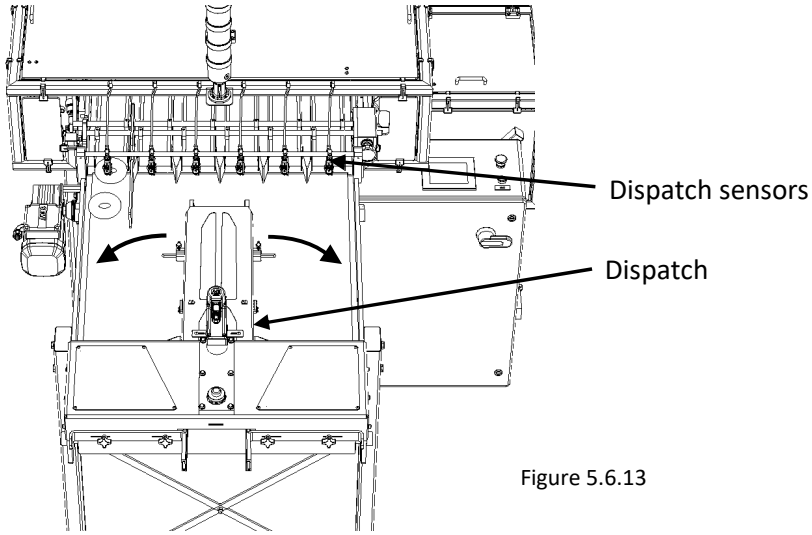



Figure 5.6.13

**Dispatch accel and decel (see figure 5.6.13)**

Acceleration and deceleration of the dispatch. A value too high will make the dispatch tough movement for the mechanic. On the other hand, a value too low will not let the dispatch reach his full speed.

**Empty row time (ms)**

This parameter is not important in normal condition. It changes the time in between the machine send the product into the system when the "empty" button on the display is pressed to emptying the machine at the end of a production.

**Bag counter light**

Value between 0 – 500. The parameter is set according to the number of bags present in one wicket (pile of bags). The machine will count the number of packaging and then it will turn on a blinking amber light(yellow/orange). This blinking light is meant to warn the operator that it is time to add bags.

**Recipe number**

Change the number associated to the recipe. For programming purpose.

**Recipe name**

Press to be able to change the recipe name displayed in the main screen.

**Disable top air blast**

Top air blast helps the product to transfer from the mesh conveyor to the rotary. When set to 1, it disables the top air blast.

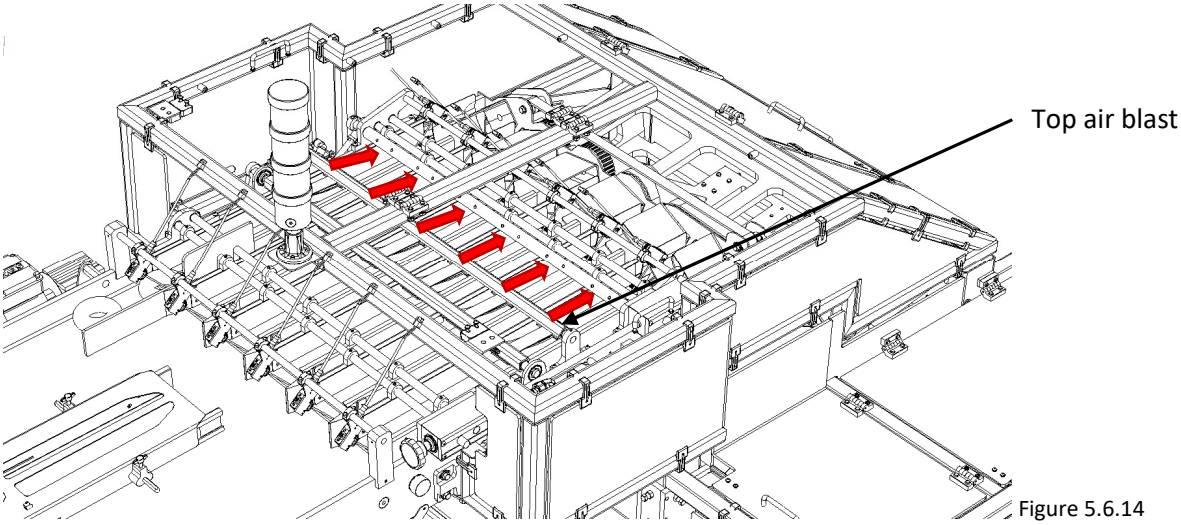



Figure 5.6.14

**Outfeed continuous speed**

On the main screen, there is a button called "Outfeed auto". When pressed, the outfeed conveyor run continuously. The parameter tells the conveyor how fast it needs to go (only in continuous mode).

**Dispatch min time short and long**

Parameters meant to prevent jam at the entrance of the rows. If the dispatch sensor sees a product and the sensor of the row has not seen the product after a delay, the dispatch will move on to another row.

## 6.3: Advanced parameters

To reach advanced parameters, Press "login" in the second page. A pop-up screen will a username and password. After that, the "Next" button will unlock until the "logout" is pressed.

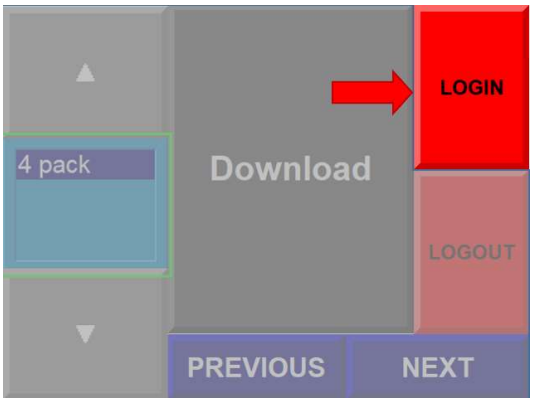



Figure 6.3.1

## 6.4: Homing sequences (advance settings)

When uncoupling motor or changing belt, to complete the task, a homing sequence need to be triggered. These actions are possible in the homing page:

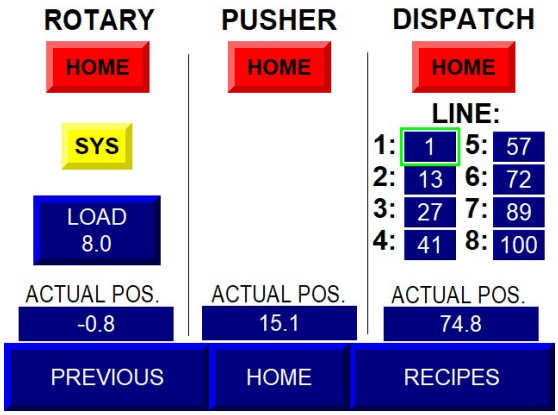



Figure 6.4.1

### 6.4.1: Homing the dispatch

**Note:**

1. Make sure the machine is NOT ready.
2. When standing in front of the screen, manually move the dispatch tunnel on the opposite side of the screen. Make it contact with the side of the conveyor. As long as the value in line 1 is not 0, the dispatch will never hit the sides while running.

Figure 6.4.1.1

3. Press "Dispatch home". Actual position should switch to 0.

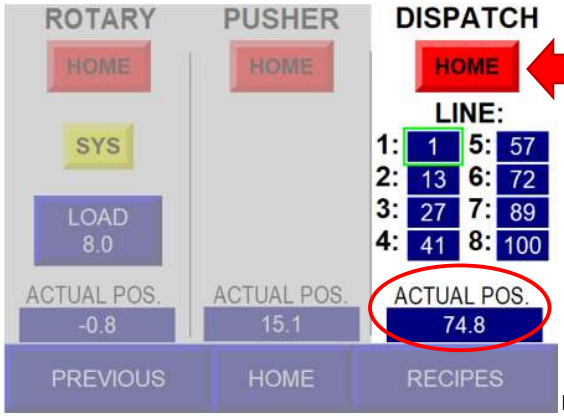



Figure 6.4.1.2

### 6.4.1.1: Lines position adjustment

In the homing page, lines (or rows) position of the dispatch can be adjusted here. Before changing values in the lines, make sure the homing has been done correctly (see 6.4.1).

**Note:** The following figure shows a left machine. Also, the screen image represents a machine with 8 lines instead of 6.

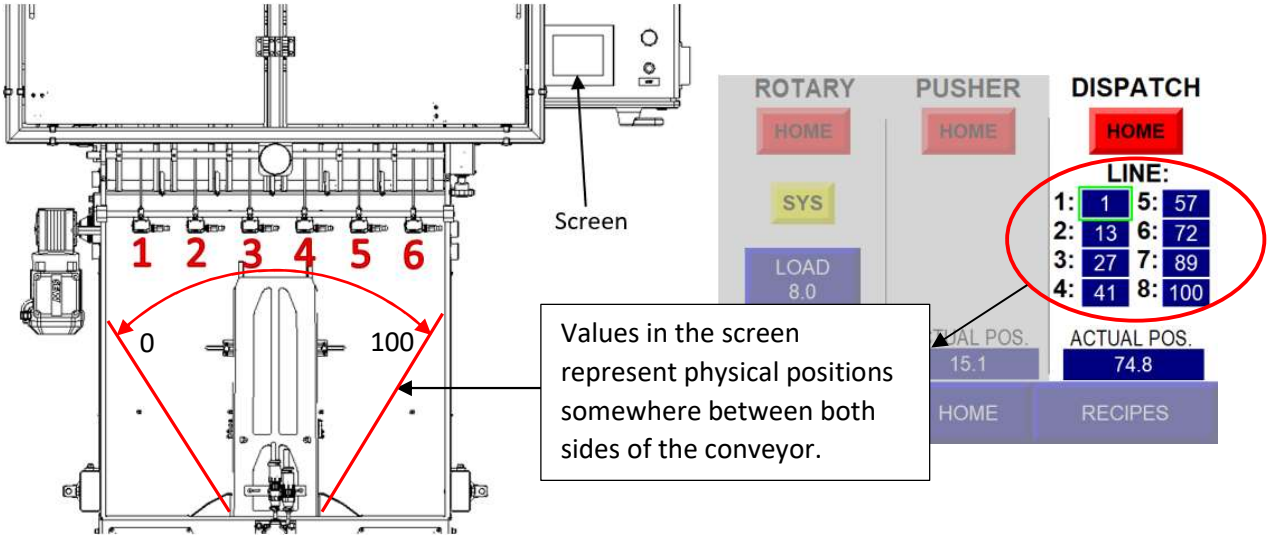



Figure 6.4.1.1.1

## 6.4.2: Homing the pushers

When uncoupling motor or changing belt, to complete the task, a homing sequence need to be triggered. These actions are possible in the homing page. To know how to reach the homing page, see 6.3 and 6.4.

1. Open side door to get access to the pushers.
2. Align one of the pushers close to the basket. Make sure the basket can move upward.
3. Press "Pusher home". Actual position should switch to 0. (can vary slightly)

Figure 6.4.2.1

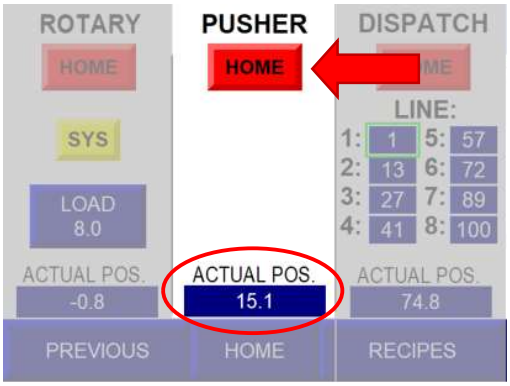



Figure 6.4.2.2

## 6.4.3: Homing the rotary

When uncoupling motor or changing belt, to complete the task, a homing sequence need to be triggered. These actions are possible in the homing page. To know how to reach the homing page, see 6.3 and 6.4.

1. Open top cover to get access to the rotary.
2. Align all the buckets straight like shown on figure 6.4.3.1. If one or multiple buckets cannot be straight, that means timing need to be done.
3. Ask someone else to manually hold the rotary coupling in the right position.
4. Press "Rotary home". Actual position should switch to 0. (can vary slightly)

Figure 6.4.3.1

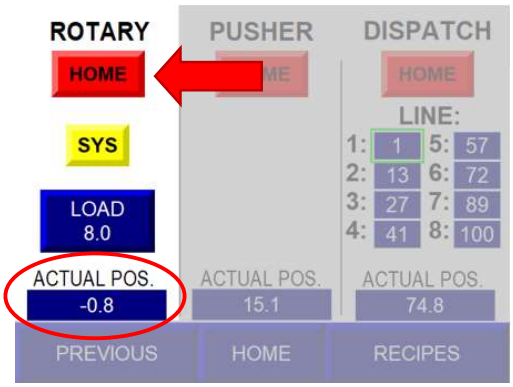



Figure 6.4.3.2

### 6.4.4: Homing the outfeed

Unlike the other servos, one page is dedicated to the outfeed. To know how to reach the homing page, see 6.3 and 6.4.

1. Close all doors and reset the machine.
2. Jog until one of the flights is aligned with the scoops and the incurved shape. See picture in the screen
3. Press "Outfeed home". The actual position will switch to 0 (can vary slightly).
4. Press "Cycle start" and make sure the next flight arrives at the same position.

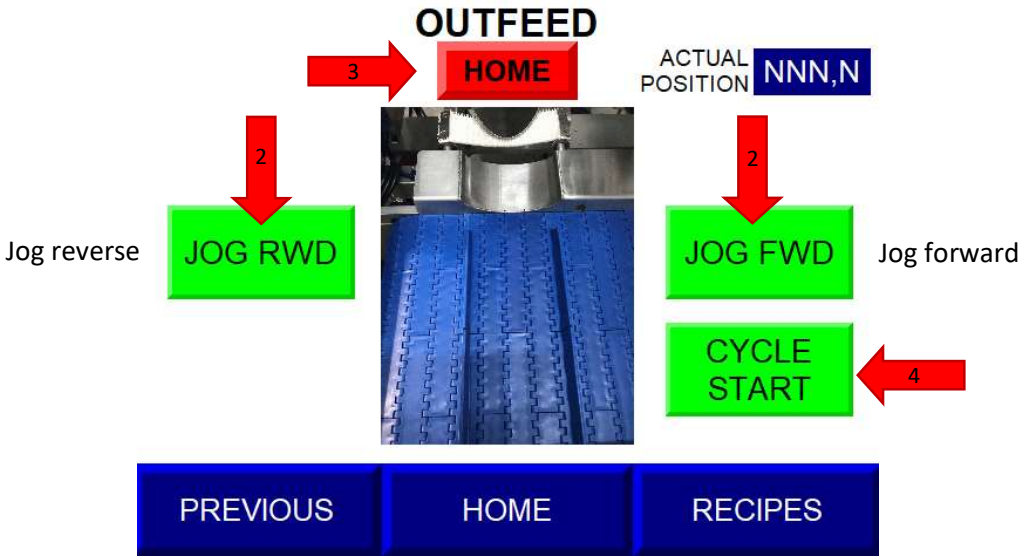



Figure 6.4.4.1

### 6.5: Maintenance steps

**Outfeed:**

There are three (3) bearing that need food grade grease every 3 months. One push with a hand grease gun is enough.

Figure 6.5.1

**Pushers bearing:**

2 bearings need one push of food grade grease every 3 months.


Figure 6.5.2

**White belt on the chute:**

- Unplug the motor coupling of the chute.

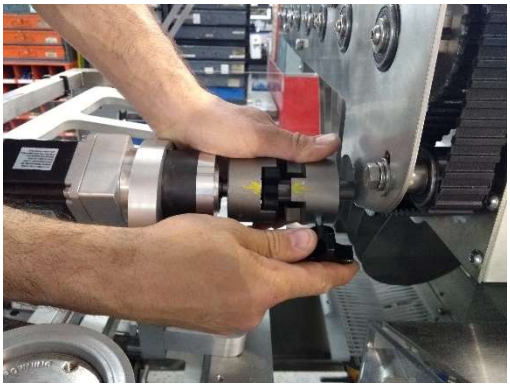


Figure 6.5.3

- Push the yellow clench and pull the chute out, then the belt is in the back of the chute: again, verify the tension of it, the wear and if the link well tight;


Figure 6.5.4

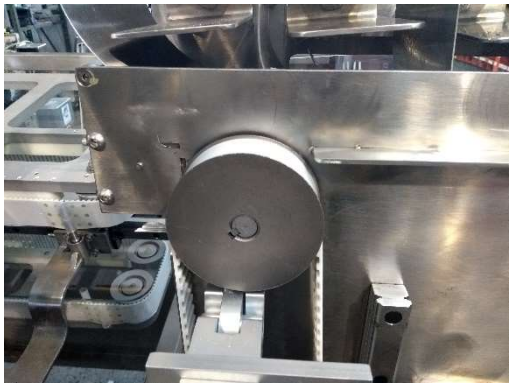


Figure 6.5.5

**Infeed belt and transfer belt**

Make sure these belts are in good condition

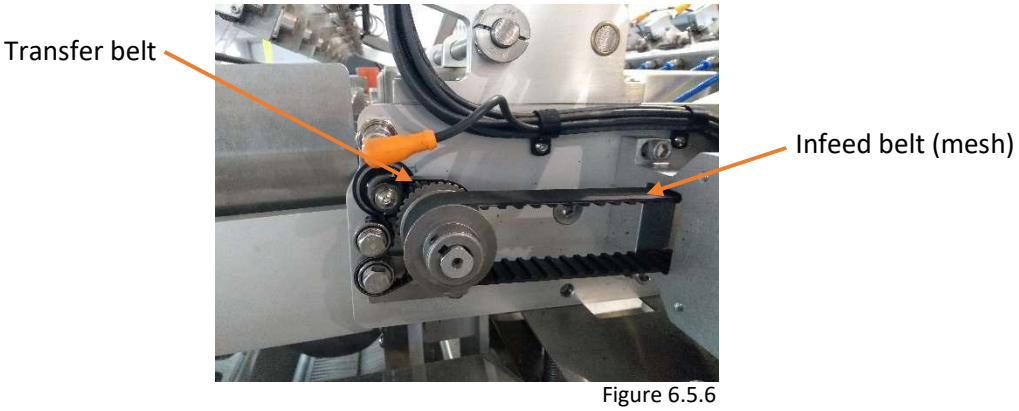



Figure 6.5.6

**Belt pushers (black)**

There is also one of the same size completely underneath. To reach that one, you may want to remove one front panel, but as always, don't forget to put a pad lock on the power if you remove a security panel. Same procedure than the other belts.

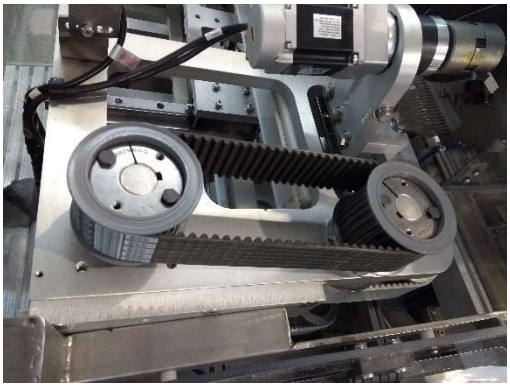


Figure 6.5.7

- When replacing the belt, both belts can be replaced at the same time.
- For the underneath belts, you will need to remove the motor and the holding bracket.
- Replace the belt.
- When you reapply the tension on the belt, make sure the shaft does not touch the aluminum frame.
- Tight well the screws.
- Do the homing sequence for the pushers (see 6.4.2).

**White pusher belts**

Same procedure than the other belts, but you will need to verify if there is wear in the transparent plastic pivots as well. There are two belts like that;

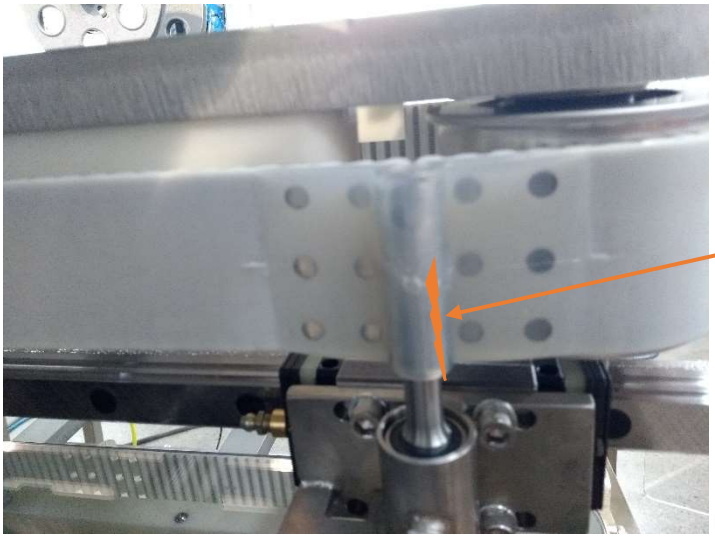



Figure 6.5.8

If a crack appears, there are two other pivots available for you on the belt. You would need to change both pushers for them and do the pusher homing procedure (see 6.4.2).

**Safety**

Verify every single door if it all close correctly and do make the machine stop in a request time delay. Check the emergency button if it is loose or hard to push. Check if all safety panels or lexans have not been removed for any reason.

**Piston door**

These pistons have oil in it and compressed air. Verify any leakage from their seal. We recommend changing it if a leak appears to avoid injuries.

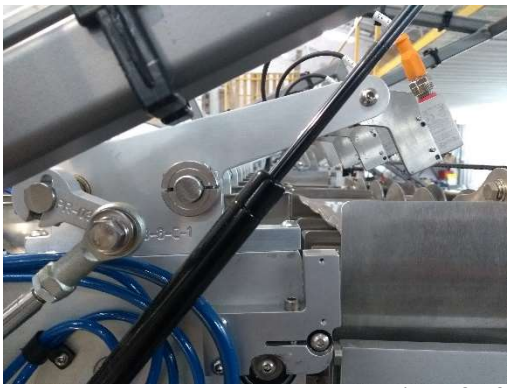


Figure 6.5.9

## 6.6: Cleaning

Cleaning is very important. It is part of the maintenance because it helps the machine work well and last longer. We do recommend cleaning every working day.

**Cleaning the chute**

- Open the front hood.
- With a 1/8 Allen key, unplug the driving shaft of the chute.

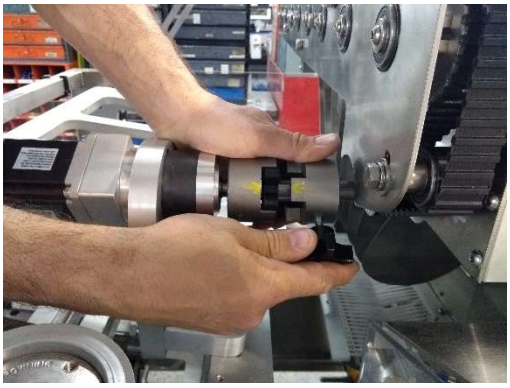


Figure 6.5.10

- Open the side door.
- Pull down the yellow lever on the side of the chute.

Figure 6.5.11

- Slide the chute out the machine.

- (Optional)**:** you may want to remove the chute to get easier access. To do so, it is recommended to manipulate the chute with a partner.

Figure 6.5.12

Figure 6.5.13

- With an air blower, remove all the dust inside the ramps and on the rear.
- With a clean rag, remove grease and product dust on the bearing rails.
- Spray sanitize base spray onto the contact surface with the product. These products don't need to be rinsed afterwards.
- Sanitize the basket underneath the chute.


Figure 6.5.14

**Cleaning interior**

- Open the doors to get access.
- Use air blowers to get rid of the dust.
- Sanitize the pushers since these are in contact with food.

**Cleaning the infeed conveyor**

- Blow with air guns on top and under.
- Spray sanitizer directly on the belt.

**Cleaning the outfeed conveyor**

- Blow with air guns on top and under.
- Spray sanitizer directly on the belt.
- Verify if there is no crack in the belt that batteries could be inside. If this is the case, replace these damaged sections. See spare parts list in this document.

# 7.0: MAINTENANCE AND REPARATIONS BY TECHNICIANS FROM KLR SYSTEMS INC.

## 7.1: Contact information for service technicians

KLR SYSTEMS INC.

944 Herons street

SAINT-PIE, QUÉBEC, CANADA

J0H 1L0

450-388-0404

Info@klrsystems.com www.klrsystems.com

# 8.0: LISTS OF SPARE PARTS AND CONSUMABLES

There are multiple options available for your machine. If you need to order a piece, make sure to look in the right list. If you need assistance, see contact information right above.

**Suggested spare part list per machine for KLR.5100-6 and KLR.5100-8**

| Numbers | Part numbers | Quantity | Descriptions |
|---|---|---|---|
| 1 | PM-00191 | 1 | LINEAR BEARING |
| 2 | PM-00192 | 1 | BEARING LINEAR SHORT |
| 3 | PP-00194 | 1 | QUICK COUPLERS 1/4 NPT MALE |
| 4 | PP-00535 | 1 | VALVE PURGE |
| 5 | PP-00534 | 1 | PRESSURE REGULATOR |
| 6 | PP-00539 | 1 | 8 MANIFOLD STATIONS |
| 7 | PP-00518-DIN | 1 | VALVE SOLENOID 24 VDC |
| 8 | PP-00200 | 1 | SPEED CONTROL 1/4 TUB - 1/4 NPT |
| 9 | PP-00168 | 1 | UNION CONNECTOR 3/8 TUB - 3/8 NPT |
| 10 | PP-00206 | 1 | REDUCER 1/4 - 1/2 BRASS FE/MA |
| 11 | PP-00197 | 1 | EXTRUDED BRANCH TEE 3/8 FE/MA/FE |
| 12 | PP-00160 | 1 | UNION CONNECTOR 3/8 TUB - 1/4 NPT |
| 13 | PP-00601 | 72 | TUBE 1/4 OD PER INCH (BLUE) |
| 14 | PP-00602 | 72 | TUBE 3/8 OD PER INCH (BLUE) |
| 15 | PE-00134 | 1 | PHOTOCELL WITH REFLECTOR 10-30 VDC |
| 16 | PE-00141-NO | 1 | PROXIMITY SWITCH 12MM/NO |
| 17 | PE-00538 | 1 | SENSAGUARD NON-CONTACT SWITCH |
| 18 | PM-00316 | 1 | ROD EYE M10 X 1,25 |
| 19 | PP-00633 | 1 | NEXFLOW BUSE |
| 20 | PP-00660 | 1 | CYLINDER |
| 21 | PM-02133 | 4 | BEARING |
| 22 | PE-00534 | 1 | TL SERIES TLY 240 V ROTARY SERVO MOTOR |
| 23 | PE-00229 | 1 | GEAR MOTOR RIGHT ANGLE 458 RPM 3/8 HP |
| 24 | PR-08905 | 1 | URETHANE BELT |
| 25 | PR-02103 | 10 | BRACKET FOR SAFETY COVER LEXAN |
| 26 | PE-00911 | 2 | M12 MALE O FIELD-WIREABLE (IDC) |
| 27 | PM-00608 | 1 | TIMING BELT |
| 28 | PM-00047 | 1 | TIMING BELT |
| 29 | PE-00907 | 1 | REFLECTOR 30X20 LASER |
| 30 | PR-03681 | 1 | PULLEY |
| 31 | PR-08409 | 1 | TRANSFER SHAFT |
| 32 | P02-00095 | 6 | BEARING |
| 33 | PM-00048 | 1 | TIMING BELT |
| 34 | PM-00049 | 1 | TIMING BELT |
| 35 | PR-04367 | 1 | BRUSH |
| 36 | PR-04367-METAL | 1 | BRUSH |
| 37 | PR-04359-1 | 1 | COMB SUPPORT |
| 38 | PB-00378 | 1 | SPROCKET CTS60-BORE 3/4'' + KEYWAY |
| 39 | PB-00330 | 1 | SPROCKET 3.2'' NATURAL ACETAL |

# 9.0: CHECK LIST

When assembled in our facility, we do have a standard applied on each machine we produce to ensure quality, to be transparent to our customer and prove that important steps have not been forgotten. Keep in mind that most of the steps aren't in this list because of the complexity of the machine, but the steps that are specific to this assembly.

**START UP CHECK LIST FOR BAGEL BAGGER KLR.5100**

| General | | |
|---|---|---|
| **Where** | **Tasks** | **Check** |
| Infeed Conveyor Operator Side | Make sure the nameplate is installed and filled with the correct values:<br>-Type: -Model:<br>-Serial: -Voltage:<br>-Hz: -Amps: Phases: | ☐N/A ☐ |
| N/A | Verify that all the options are installed and functional | ☐N/A ☐ |

| Mechanic | | |
|---|---|---|
| **Where** | **Tasks** | **Check** |
| Chute | Make sure that the driving key on the main shaft is retained by the sprocket and not by the coupling itself. Then the key won't fall during cleaning procedures; | ☐N/A ☐ |
| | The chute slide well and the yellow clench stay in the close position | ☐N/A ☐ |
| | Verify that the rotary collars are facing up to get more accessibility | ☐N/A ☐ |
| | Verify that the rotary is not touching the chute | ☐N/A ☐ |
| | Linear bearing stopper in the rear is present | ☐N/A ☐ |
| | Make sure the basket is perpendicular to the linear bearing rails | ☐N/A ☐ |
| Pushers | Check if the adjustable bracket in the middle frames allow the pushers to be free when travelling and not compressed on the plastic support | ☐N/A ☐ |
| | Make sure linear bearing grease ports are facing inside the machine | ☐N/A ☐ |
| | Verify that the middle-linear bearing rails are parallel to the plastic support | ☐N/A ☐ |
| Motors | Check the rotation of the motors | ☐N/A ☐ |
| Servo motors | Check the rotation of the servo | ☐N/A ☐ |
| Infeed Conveyor | Verify each bearing cap is in place and hold tight | ☐N/A ☐ |

| Pneumatic | | |
|---|---|---|
| **Where** | **Tasks** | **Check** |
| Air shut off valve | Put air pressure up to 80 psi | ☐N/A ☐ |
| Machine | Verify every line to see if there is leaking | ☐N/A ☐ |
| Manifold | Check each output to see if the manifold work correctly and there is no leak in every single valve state | ☐N/A ☐ |
| Under the chute | Check if the blowers are well oriented and the bags are well inflated | ☐N/A ☐ |
| Infeed conveyor | Check if fingers on top of the infeed conveyor are going a decent speed. | ☐N/A ☐ |
| Bag Table | Check if the upper scoop is toward the bag table and the bottom scoop is horizontal on ready state | ☐N/A ☐ |
| Bag Table | Check if the upper scoop is clearing the front chute plate and is moving freely when air is dismissed | ☐N/A ☐ |

| Electric | | |
|---|---|---|
| **Where** | **Tasks** | **Check** |
| Infeed conveyor | Put bagels on top of the belt, program each sensor following the manufacturer instruction | ☐N/A ☐ |
| PLC | Check all inputs if it reaches the right contact on the PLC | ☐N/A ☐ |
| Program or manually | Toggle each output if this reaches the right valve | ☐N/A ☐ |
| Electrical box | Clean electrical box | ☐N/A ☐ |
| Electrical box | Make sure an as built drawing is in the electrical box | ☐N/A ☐ |

| Safety | | |
|---|---|---|
| **Where** | **Tasks** | **Check** |
| N/A | Verify each safety switch and emergency mushroom and verify on the screen for correct indication. (Fill qty in check column) | ☐N/A ☐<br>Switch:<br>Button: |
| Dispatch | Verify the torque overload on the dispatch. The dispatch should trip on hand force | ☐N/A ☐ |
| Machine | Verify each cover and polycarbonate guard are installed and fastened | ☐N/A ☐ |
| Machine | Make sure every safety labels are installed | ☐N/A ☐ |

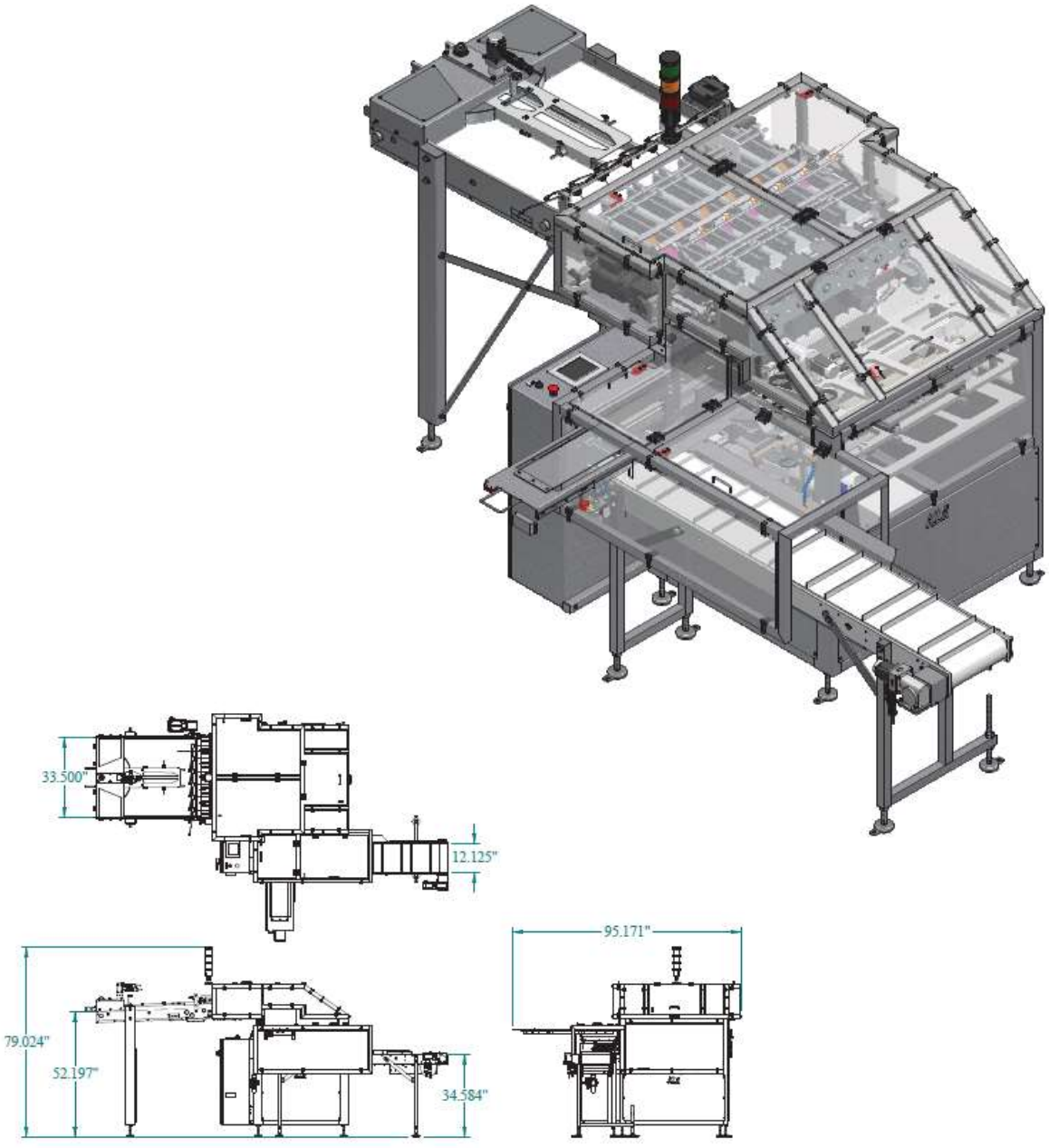
**DATE: _____** **TECHNICIAN SIGNATURE: _____**

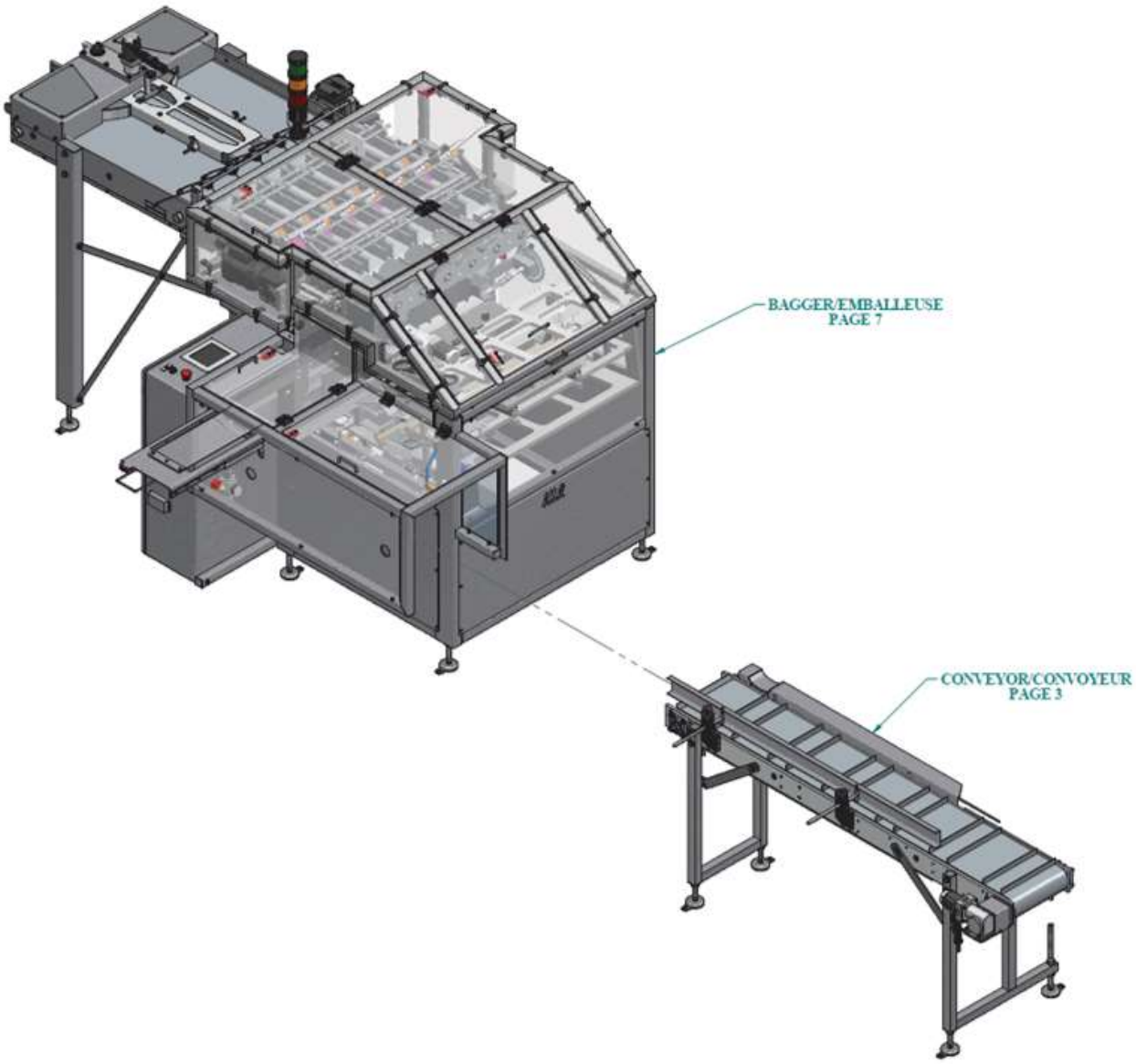
## 10.0: DECOMMISSIONING OF THE PRODUCT

It is advisable to plan a tour of KLR to reinstall the equipment after a prolonged deactivation or a move, destruction, recycling, disposal.

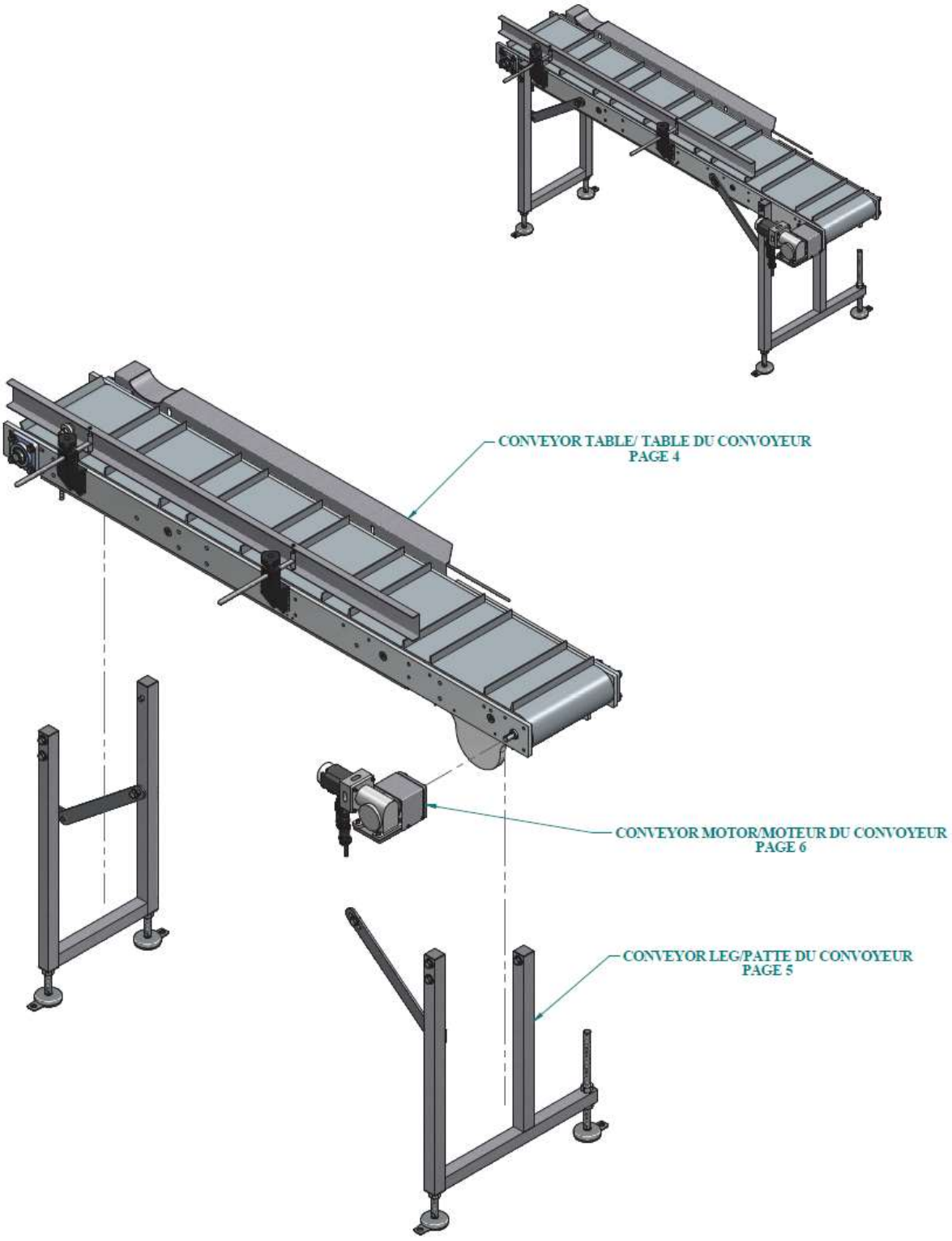
## 11.0: EXPLODED VIEWS

# KLR.5100L240-V2 BAGEL BAGGER

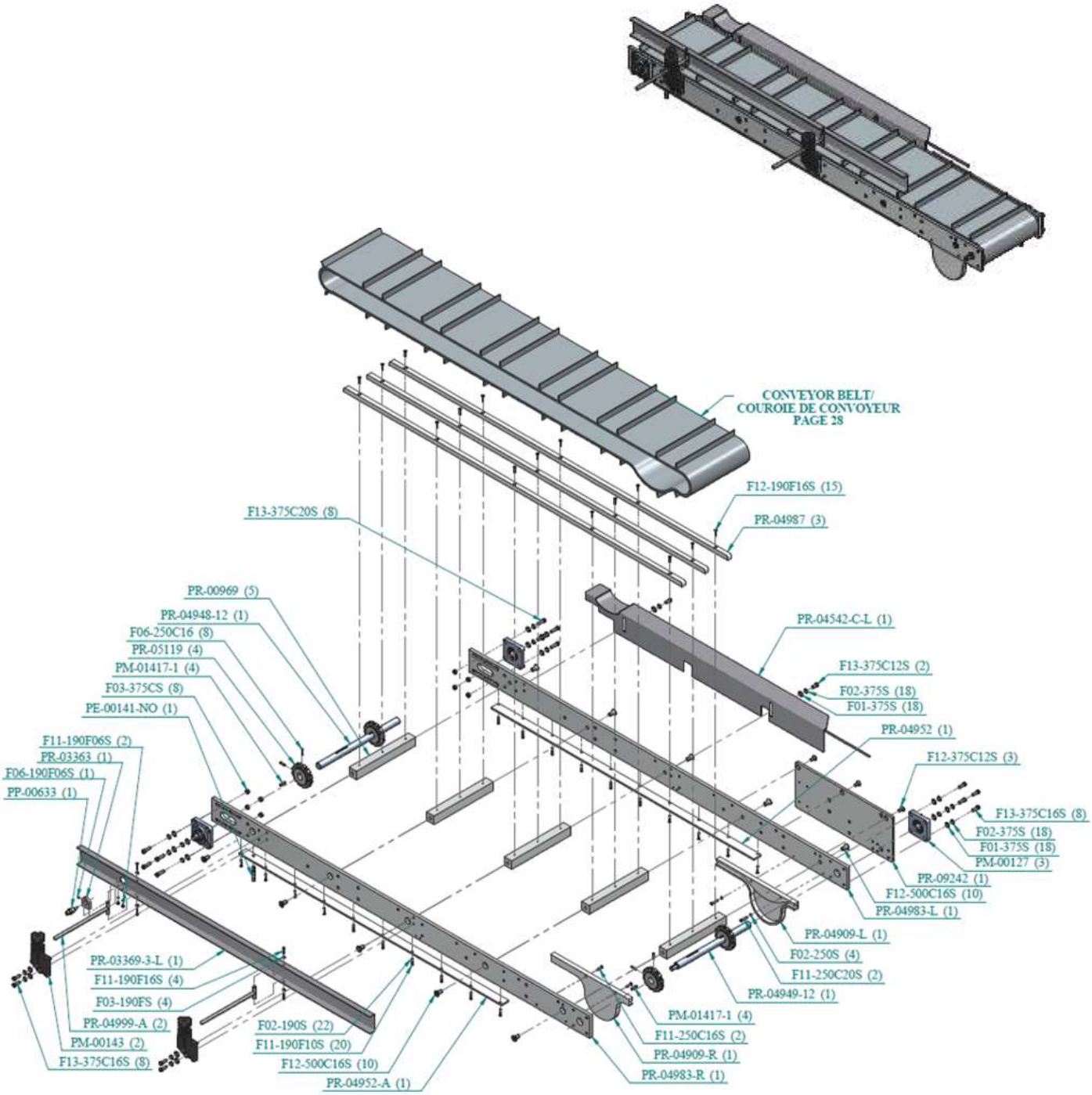



BAGGER/EMBALLEUSE
PAGE 7
CONVEYOR/CONVOYEUR
PAGE 3

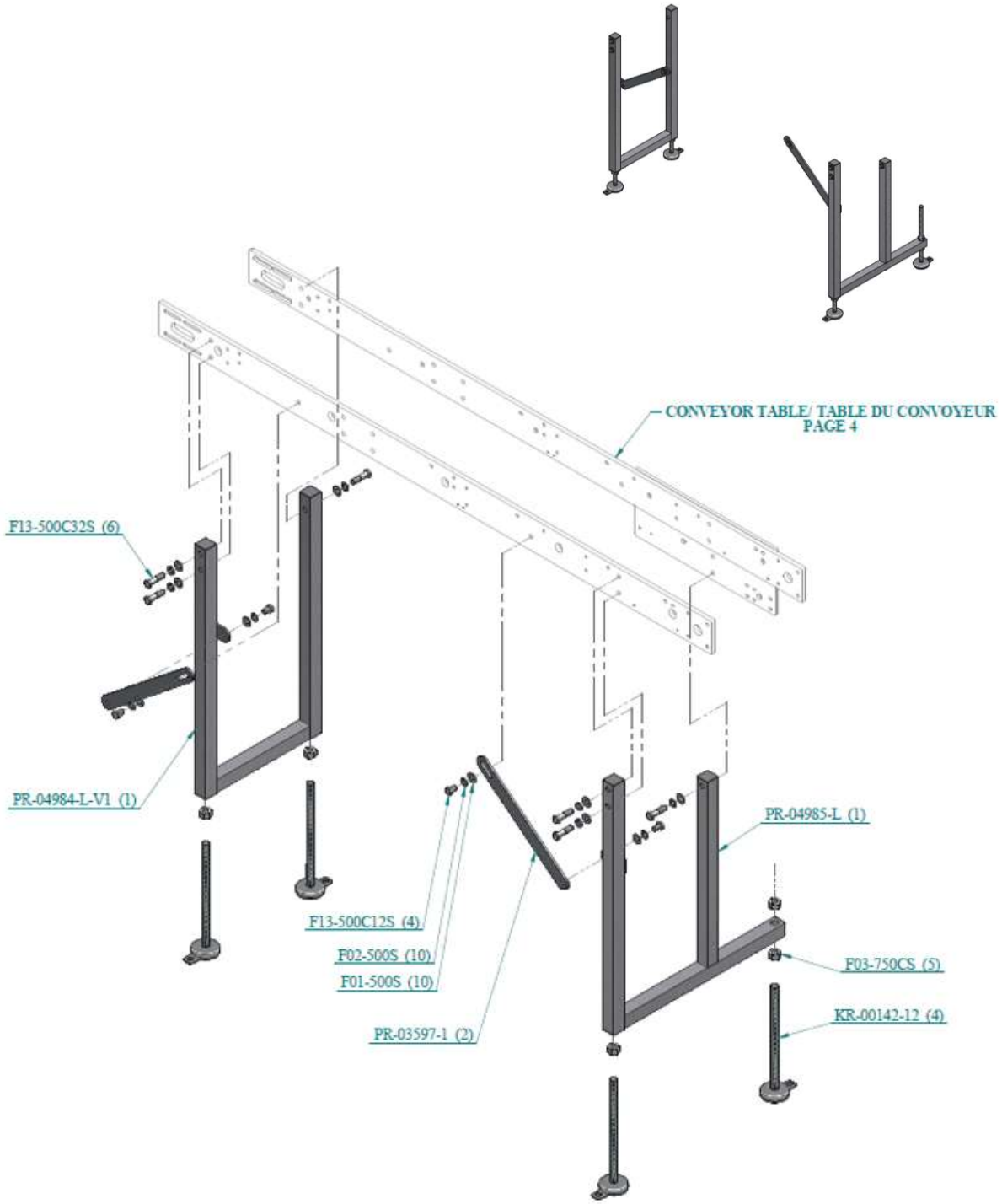
# OUTFEED CONVEYOR



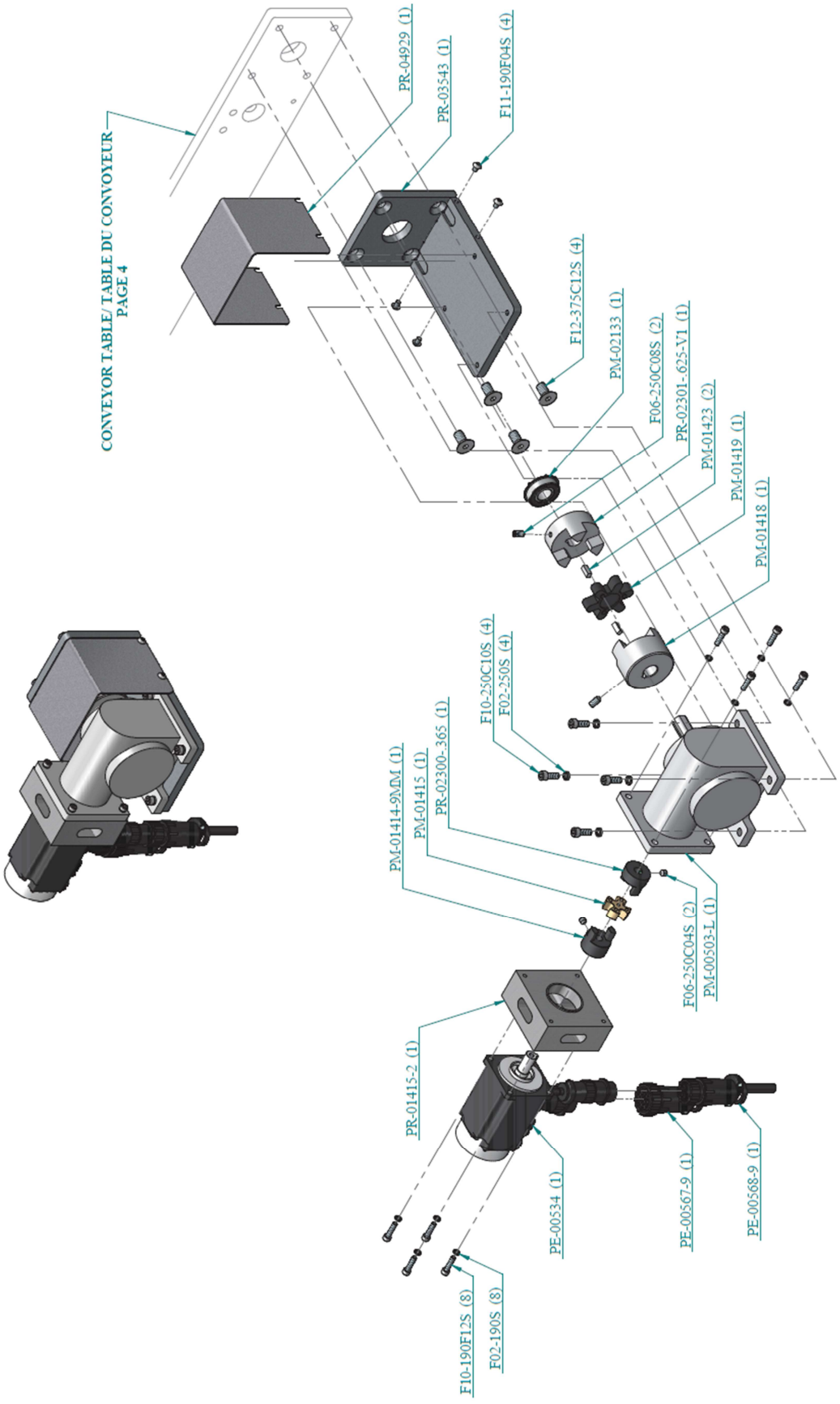
# CONVEYOR TABLE



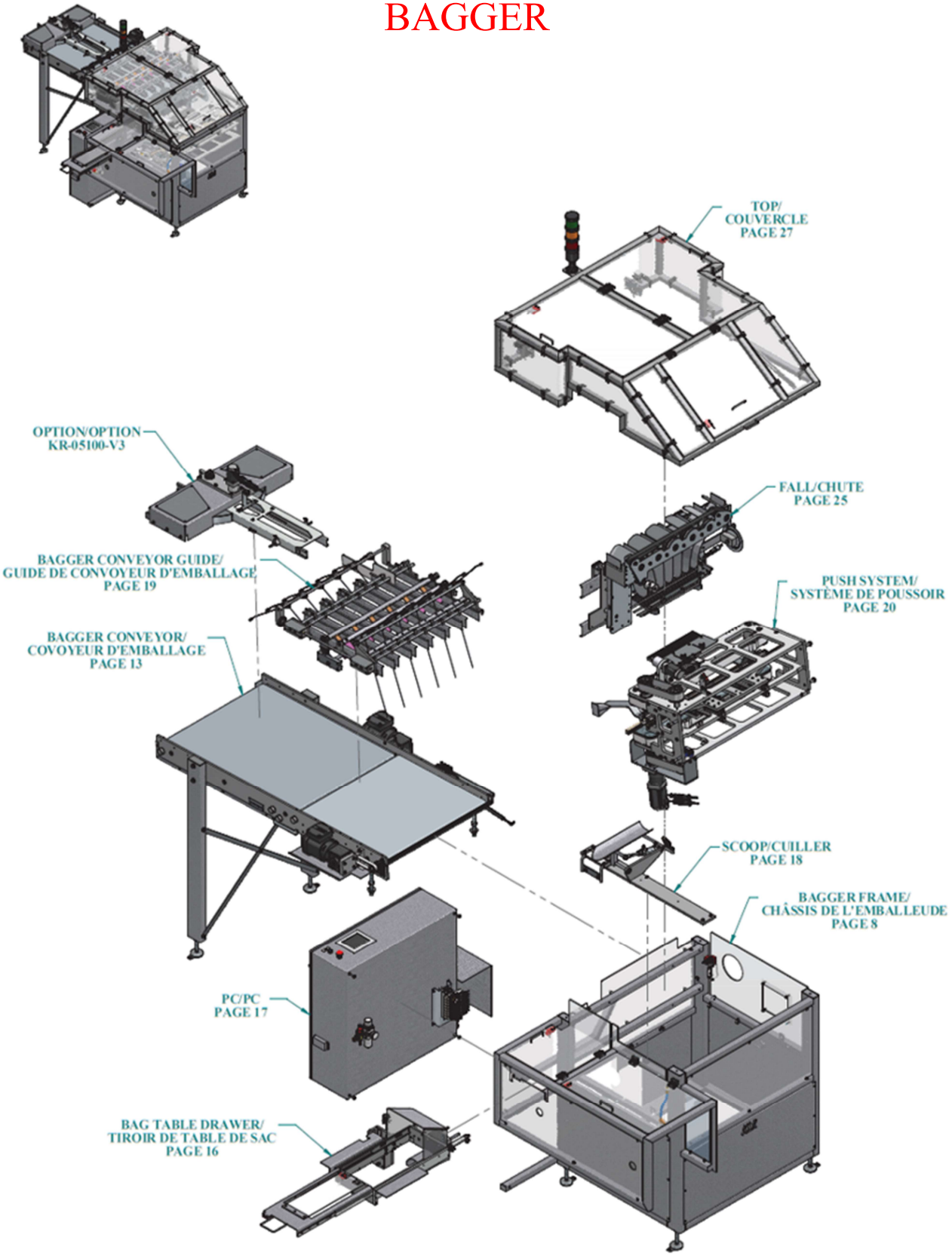
# CONVEYOR LEGS



# CONVEYOR MOTOR



# BAGGER


TOP/
COUVERCLE
PAGE 27
OPTION/OPTION
KR-05100-V3
FALL/CHUTE
PAGE 25
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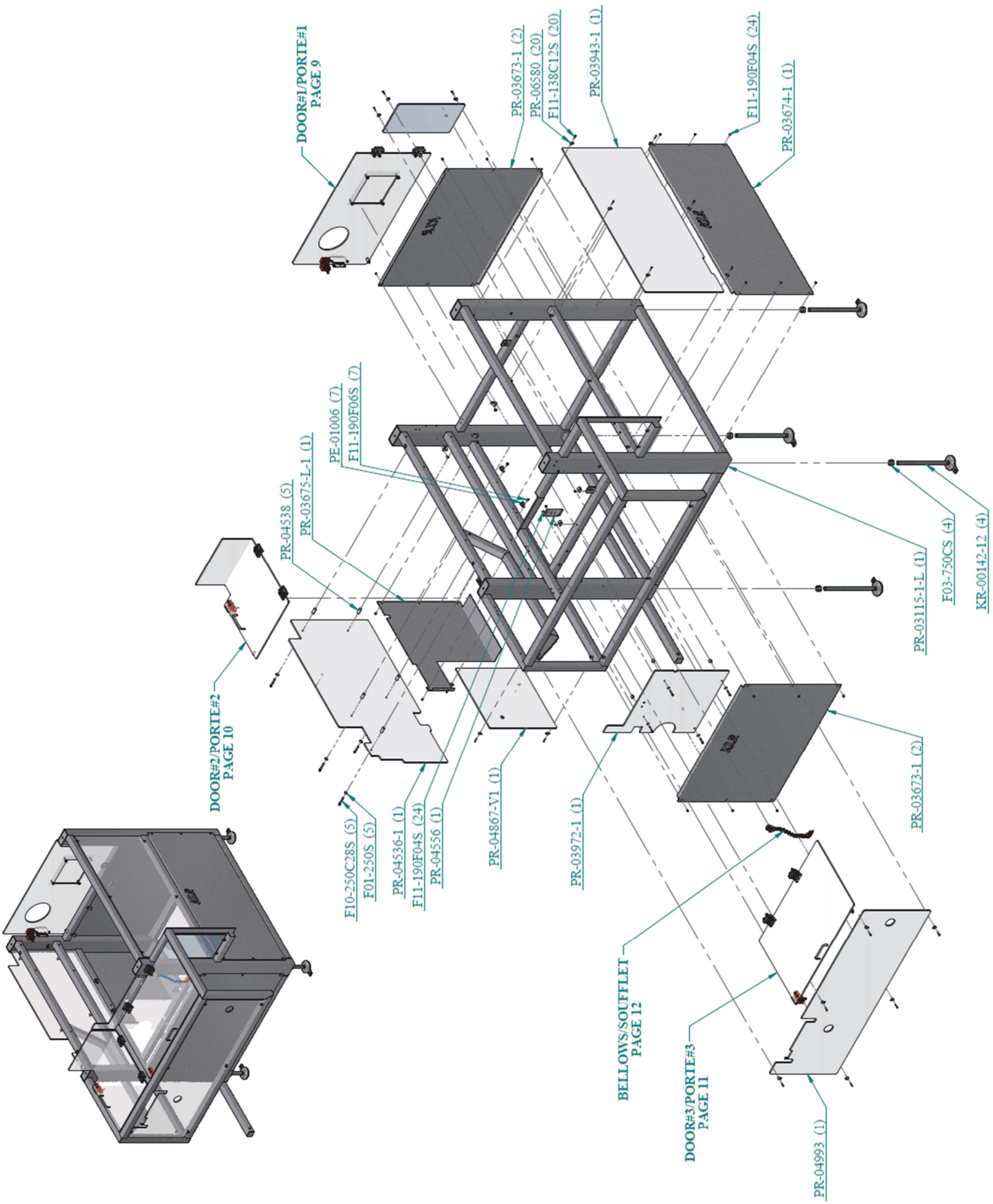
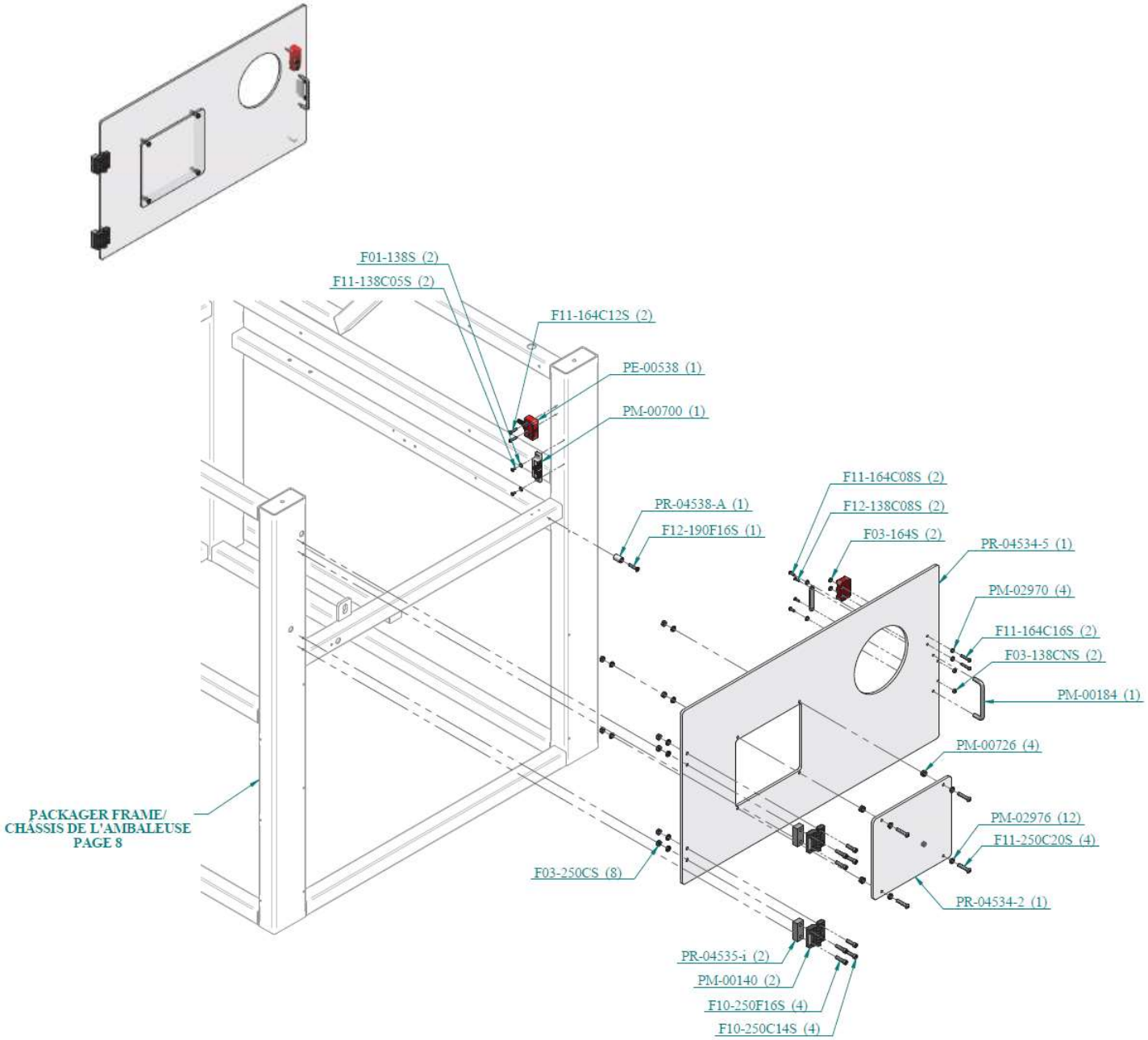
# BAGGER FRAME



# SIDE DOOR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F11-138C05S (2)
F11-164C12S (2)
PE-00538 (1)
PM-00700 (1)
PR-04538-A (1)
F12-190F16S (1)
F11-164C08S (2)
F12-138C08S (2)
F03-164S (2)
PR-04534-5 (1)
PM-02970 (4)
F11-164C16S (2)
F03-138CNS (2)
PM-00184 (1)
PM-00726 (4)
PACKAGER FRAME/
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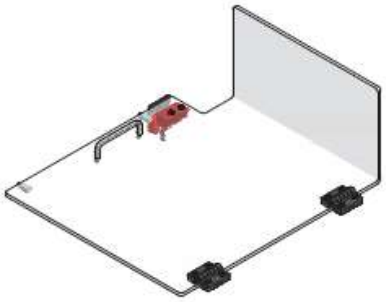
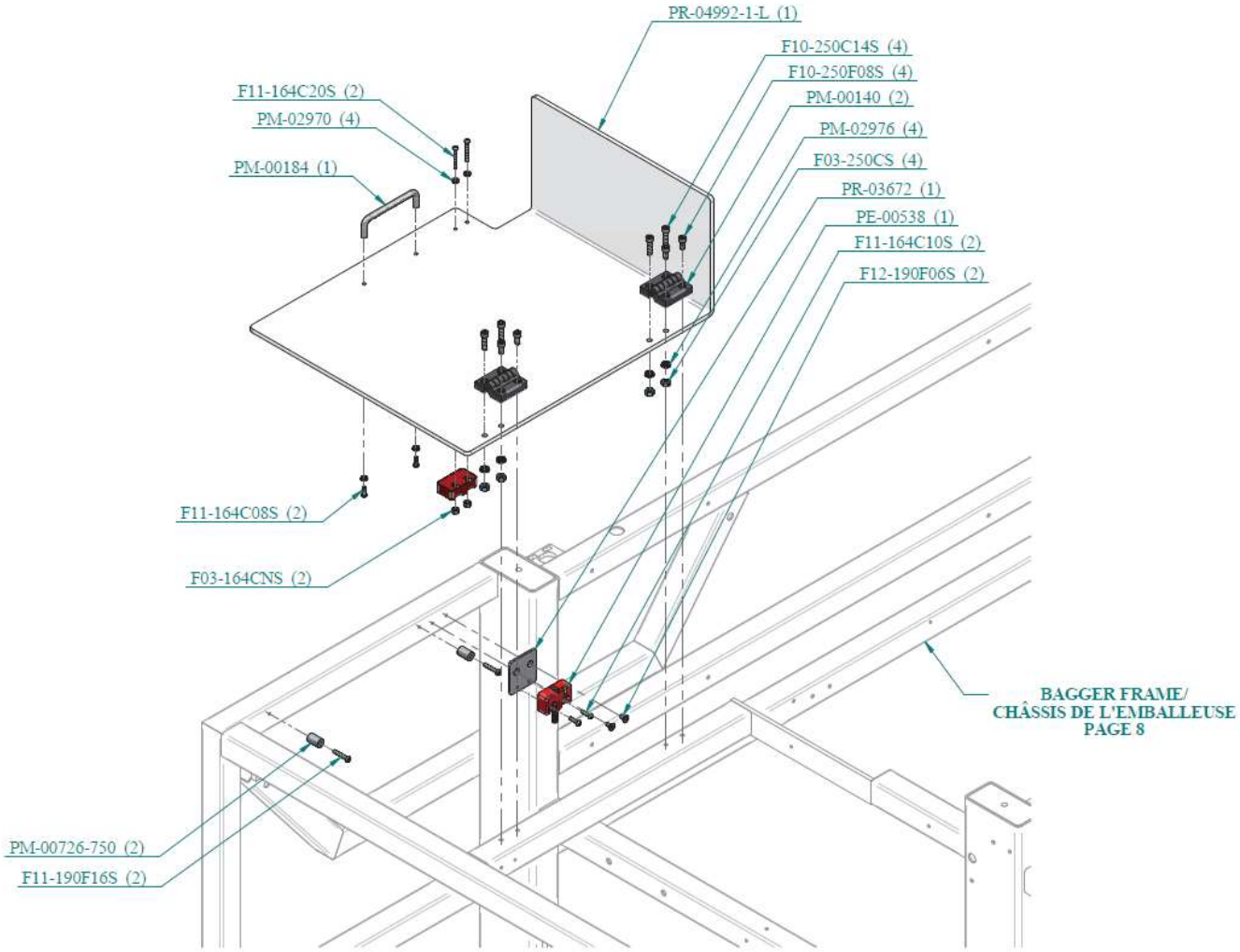
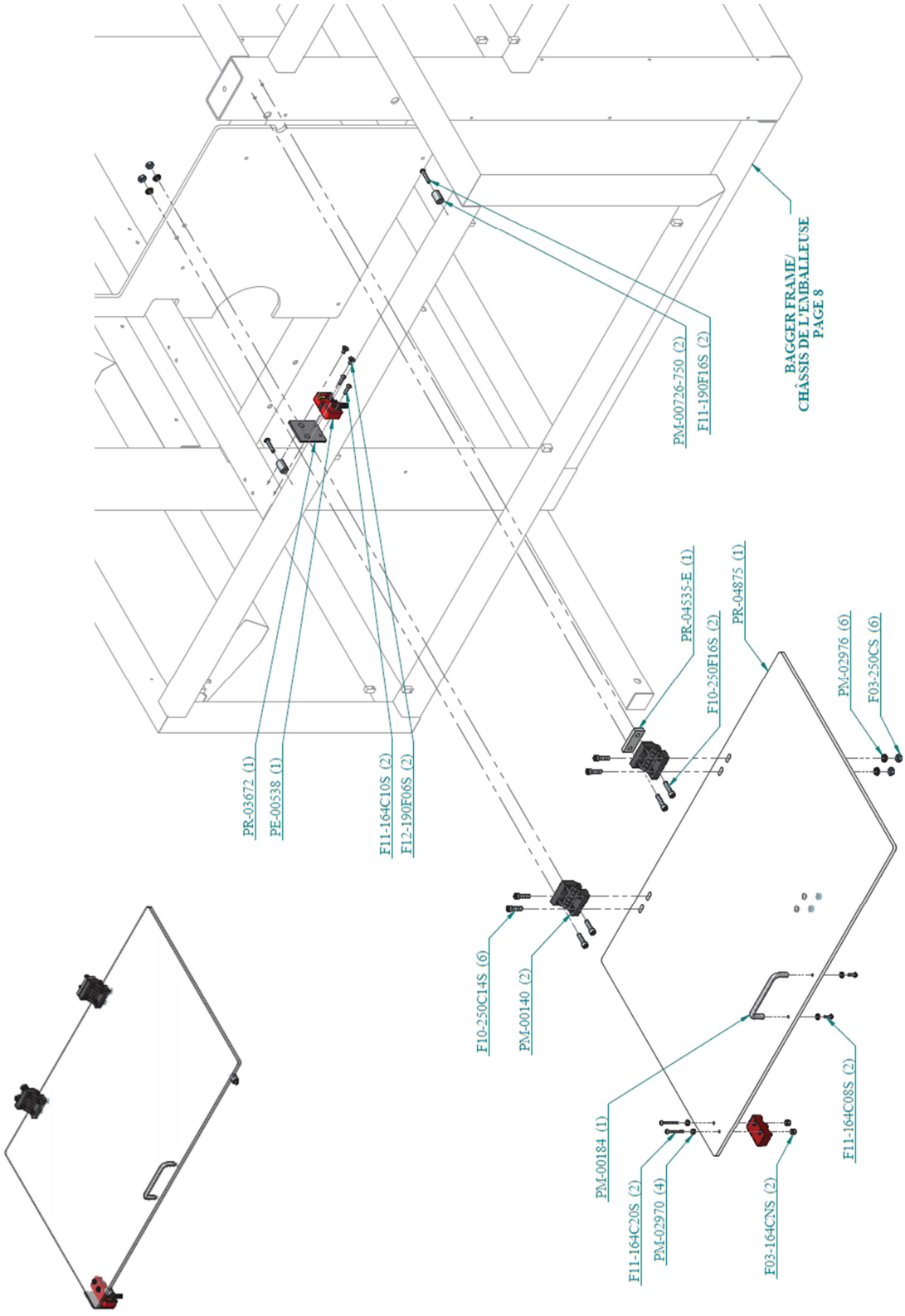
F03-250CS (8)
PM-02976 (12)
F11-250C20S (4)
PR-04534-2 (1)
PR-04535-i (2)
PM-00140 (2)
F10-250F16S (4)
F10-250C14S (4)

# BAG TABLE DOOR

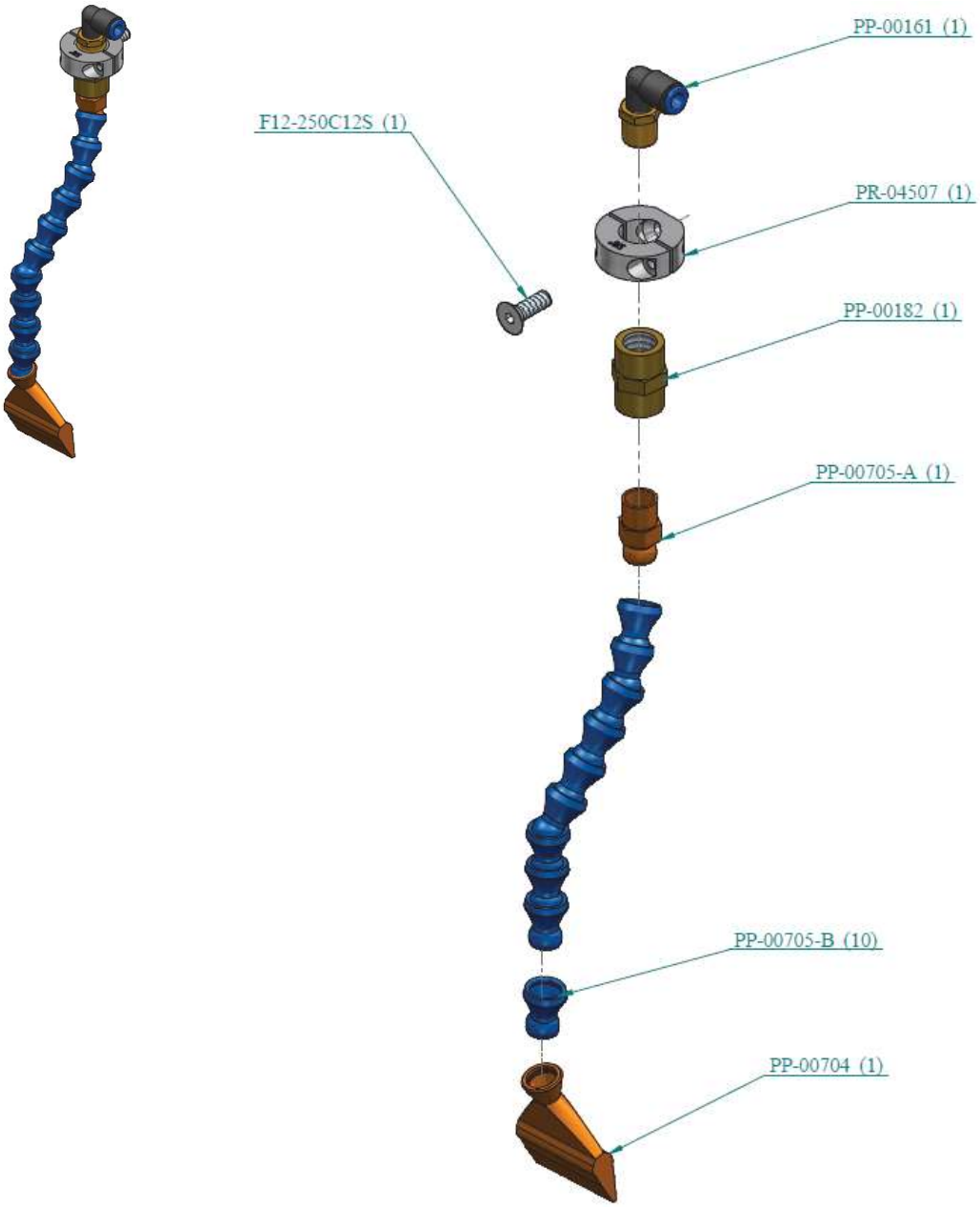




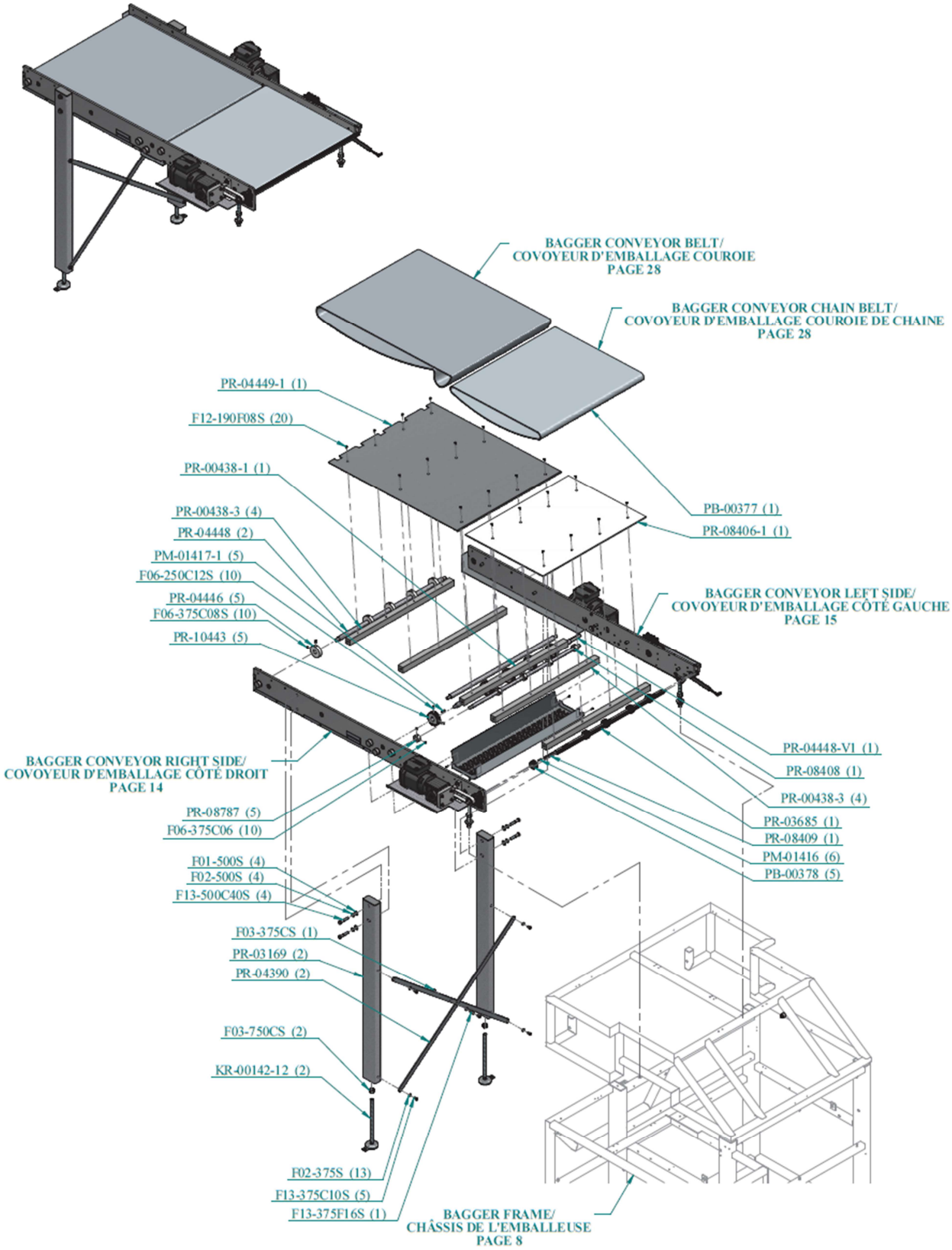
# OUTFEED DOOR



# BAG TAIL BLOWER / BELLOWS



# INFEED CONVEYORS



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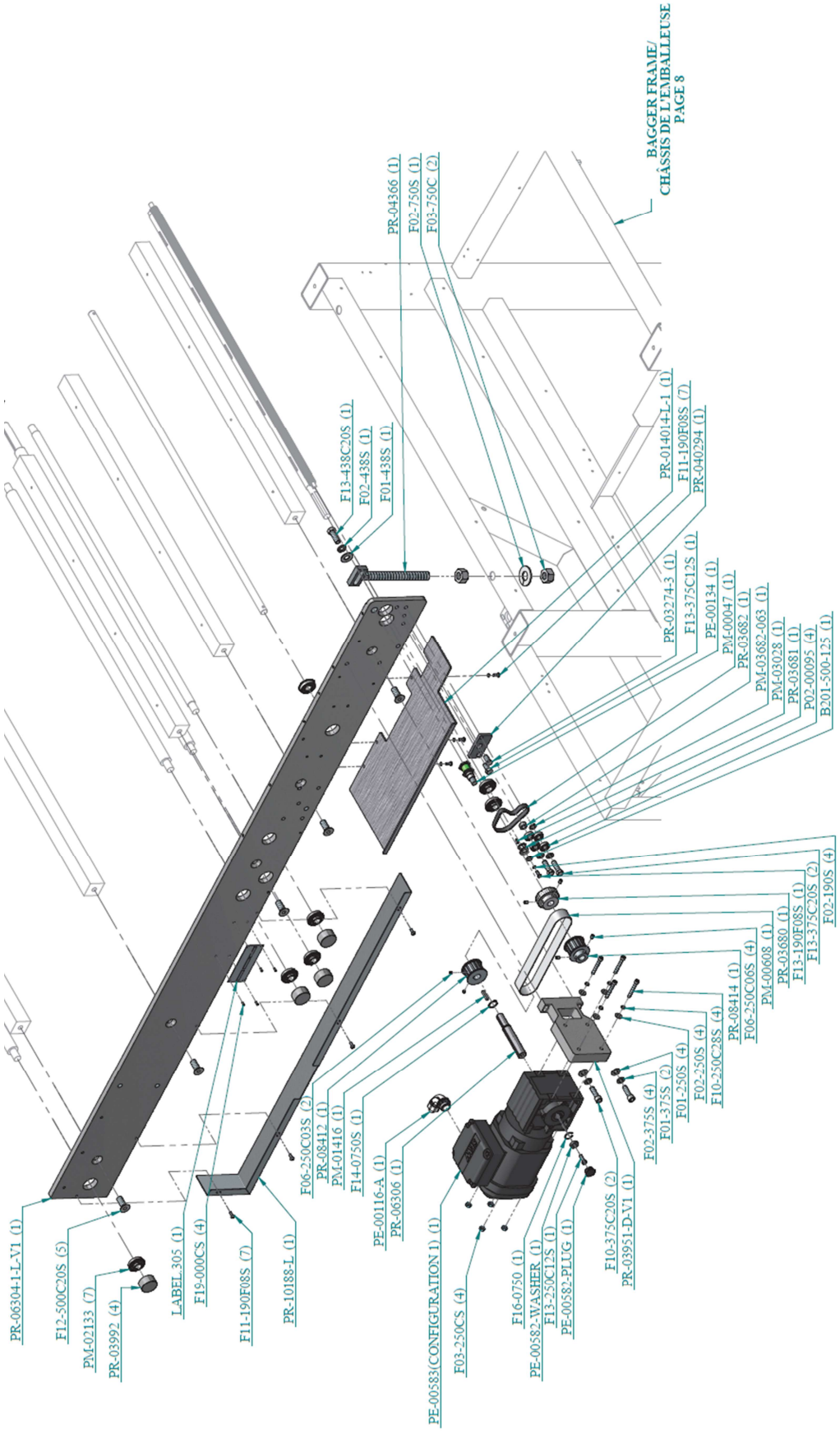

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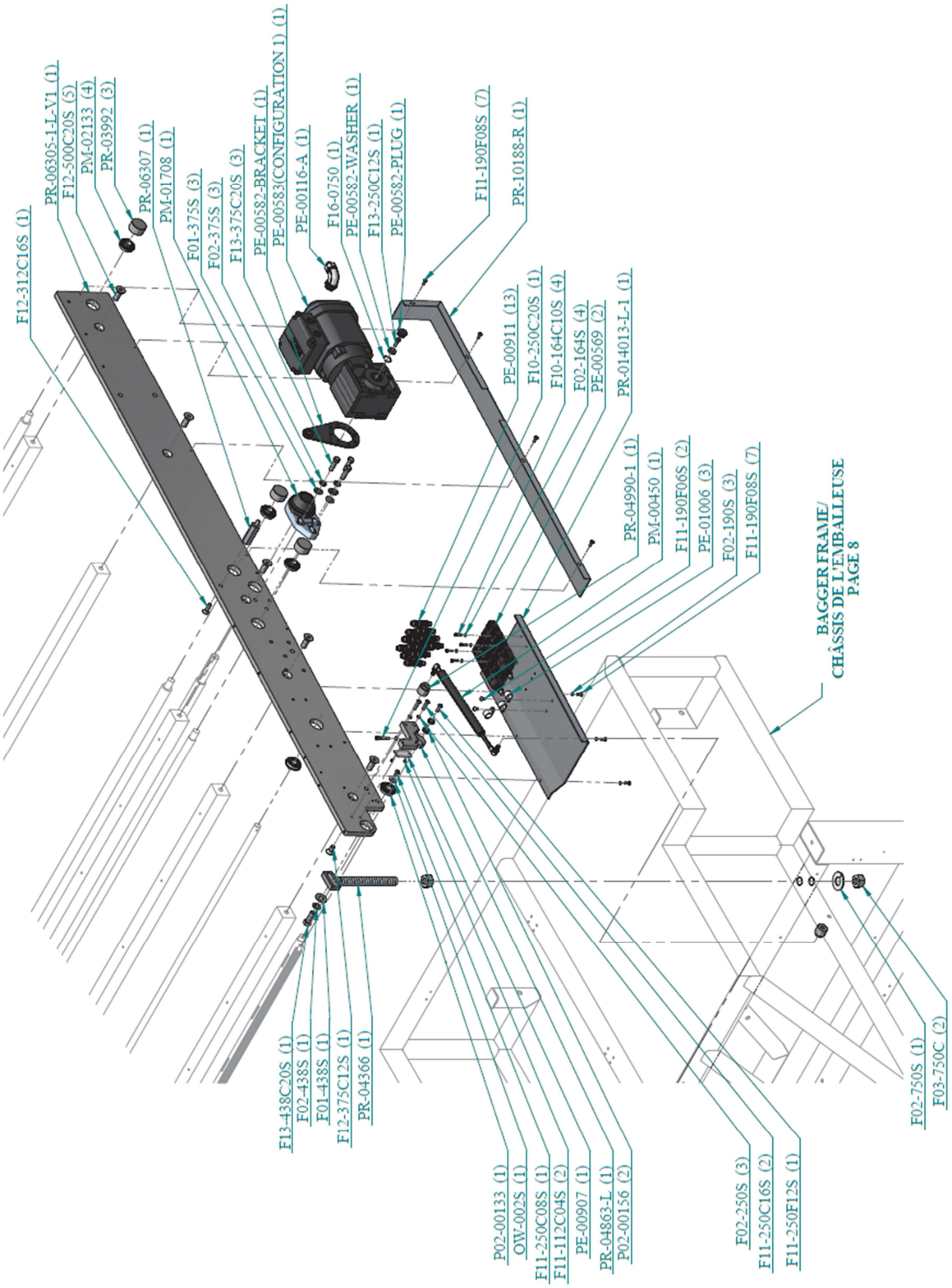
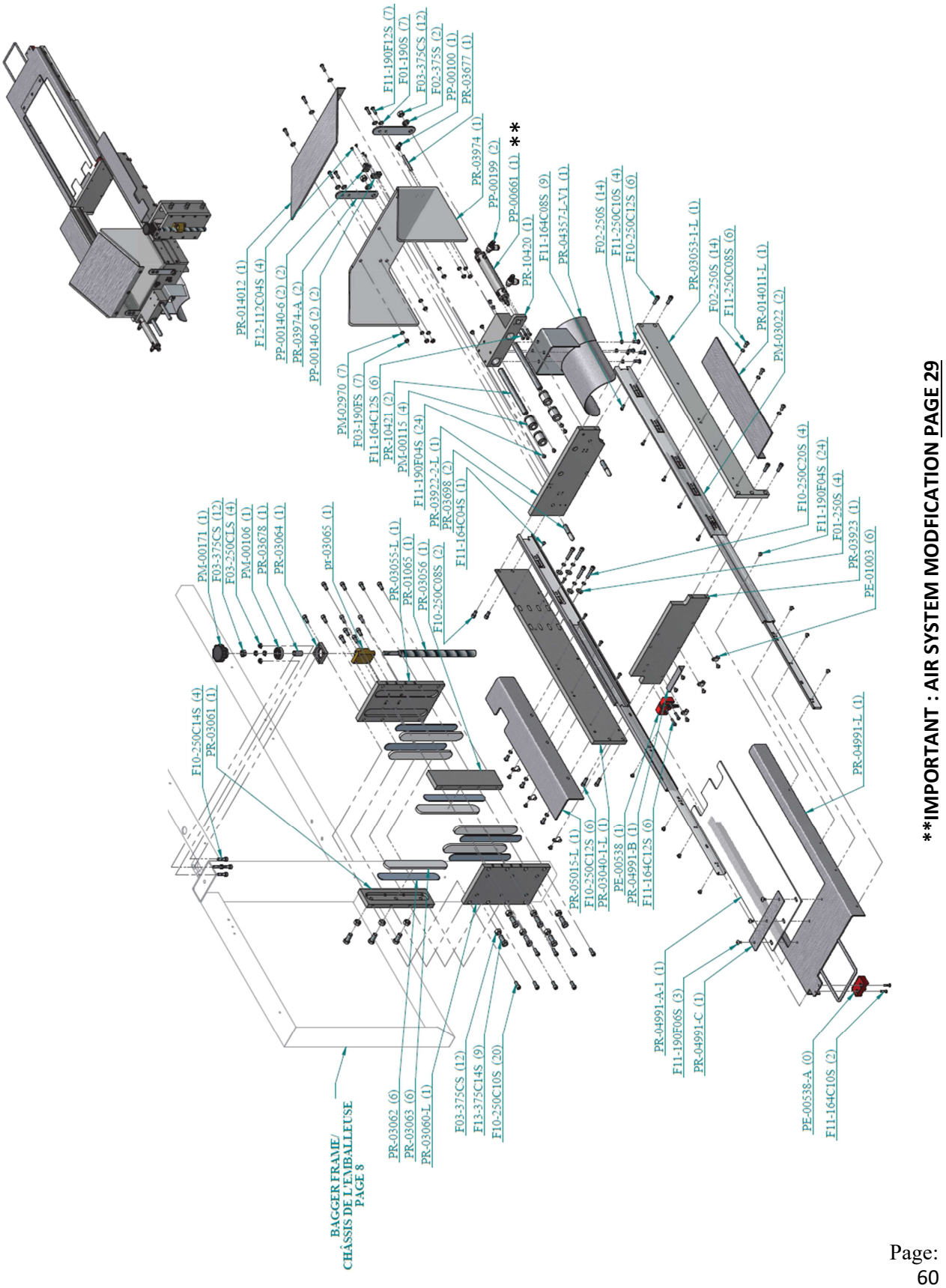


# BAG TABLE / TOP SCOOP

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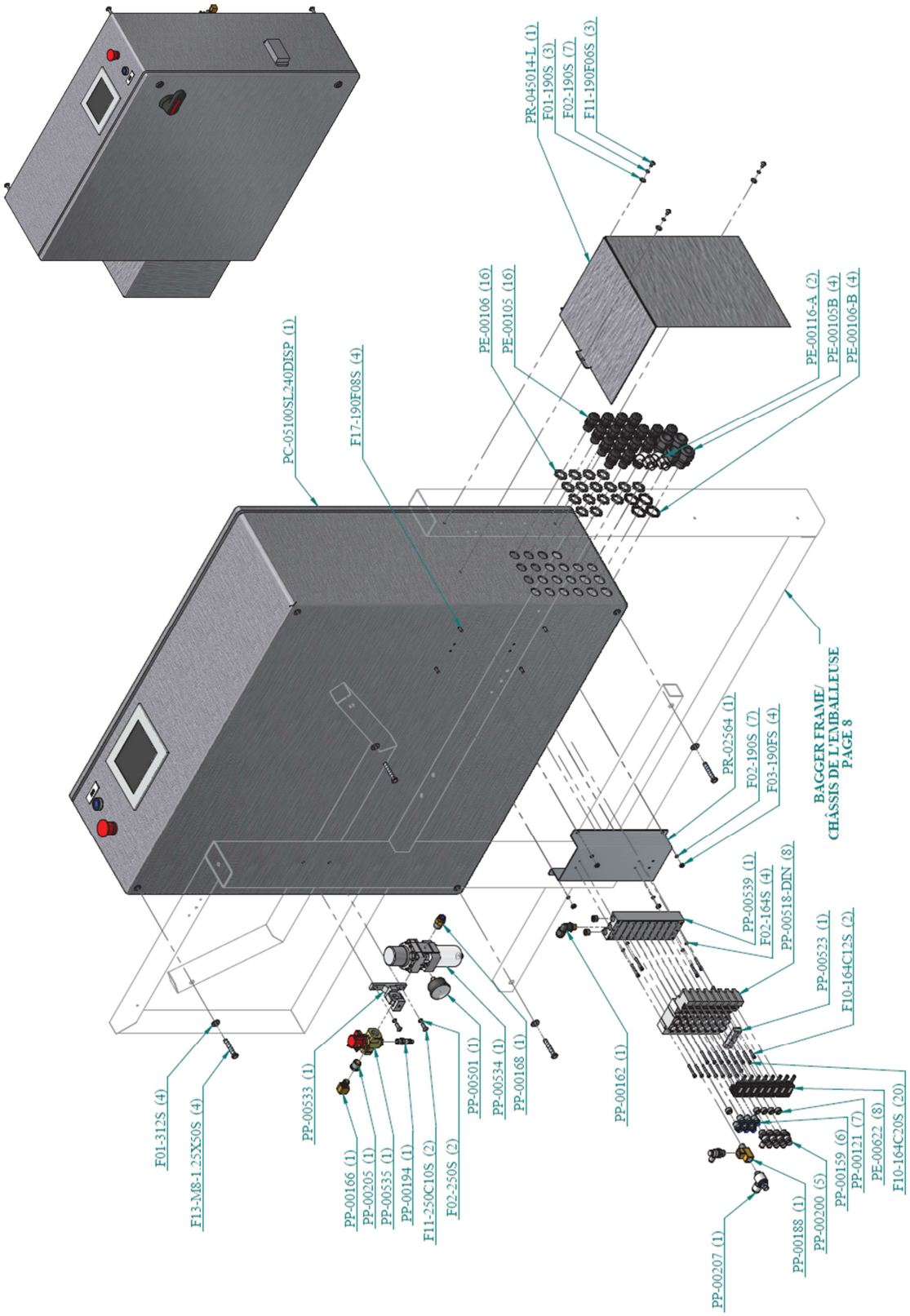
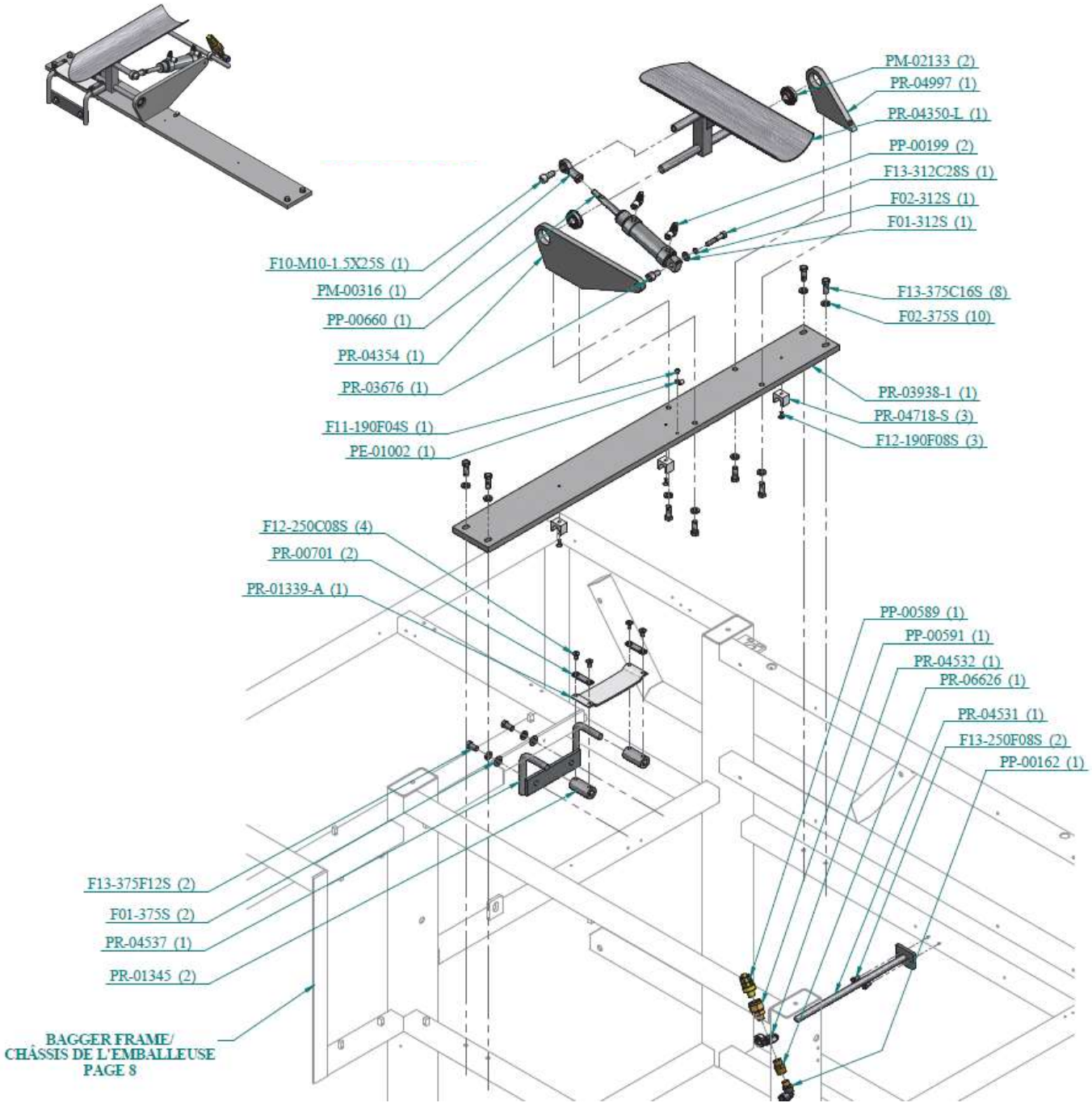
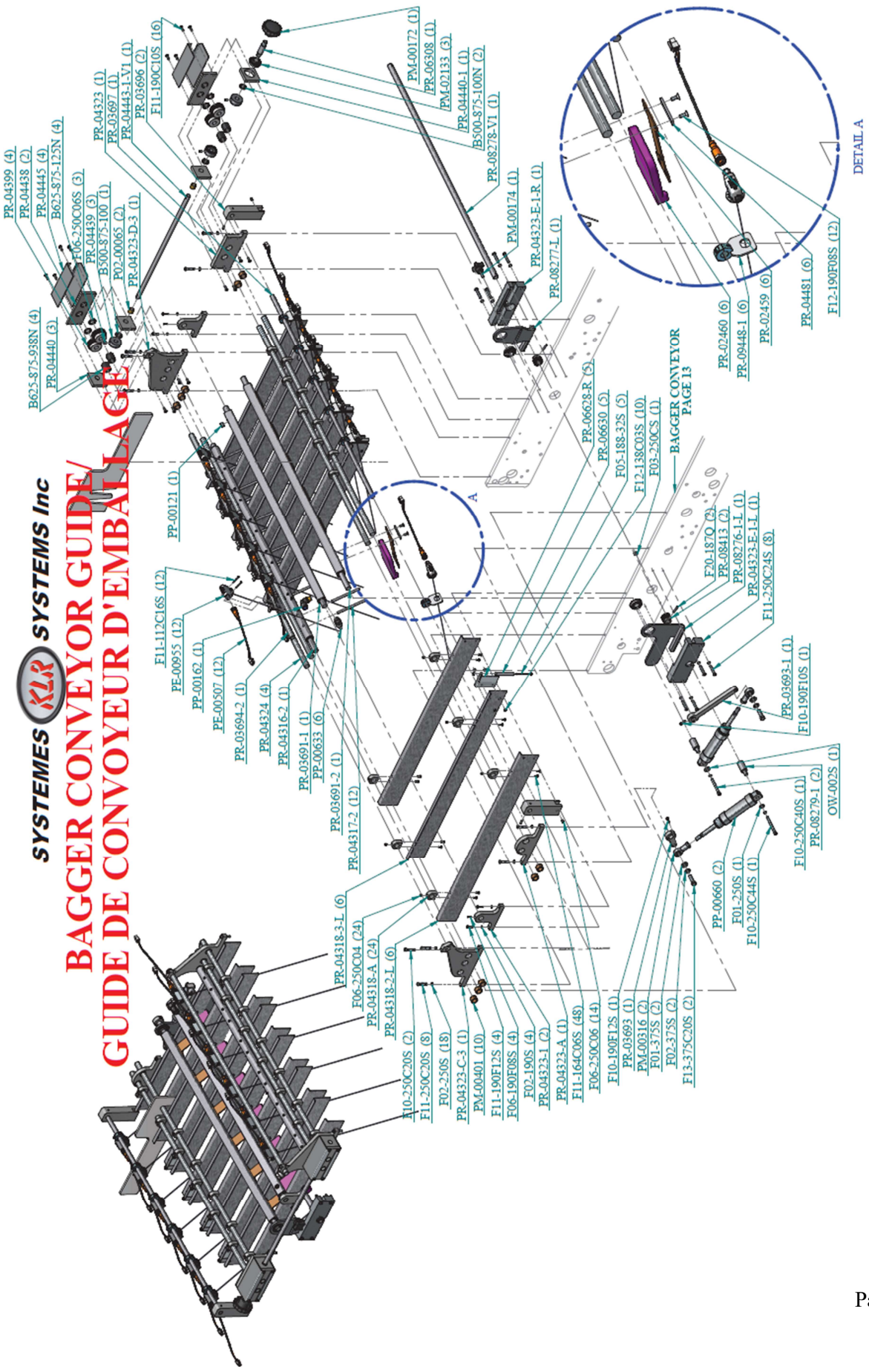
# PANEL CONTROL



# BOTTOM SCOOP

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GUIDE DE CONVOYEUR D'EMBALLAGE
DETAIL A
A
BAGGER CONVEYOR
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PR-04399 (4)
PR-04438 (2)
PR-04445 (4)
B625-875-125N (4)
F06-250C06S (3)
PR-04439 (3)
B500-875-100 (1)
P02-00065 (2)
PR-04323-D-3 (1)
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PR-04440 (3)
PR-04323 (1)
PR-03697 (1)
PR-04443-1-V1 (1)
PR-03696 (2)
F11-190C10S (16)
PM-00172 (1)
PR-06308 (1)
PM-02133 (3)
PR-04440-1 (1)
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PR-08278-V1 (1)
PM-00174 (1)
PR-04323-E-1-R (1)
PR-08277-L (1)
PR-02460 (6)
PR-09448-1 (6)
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PR-04481 (6)
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PP-00121 (1)
F11-112C16S (12)
PE-00955 (12)
PP-00162 (1)
PE-00507 (12)
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PR-04324 (4)
PR-04316-2 (1)
PR-03691-1 (1)
PP-00633 (6)
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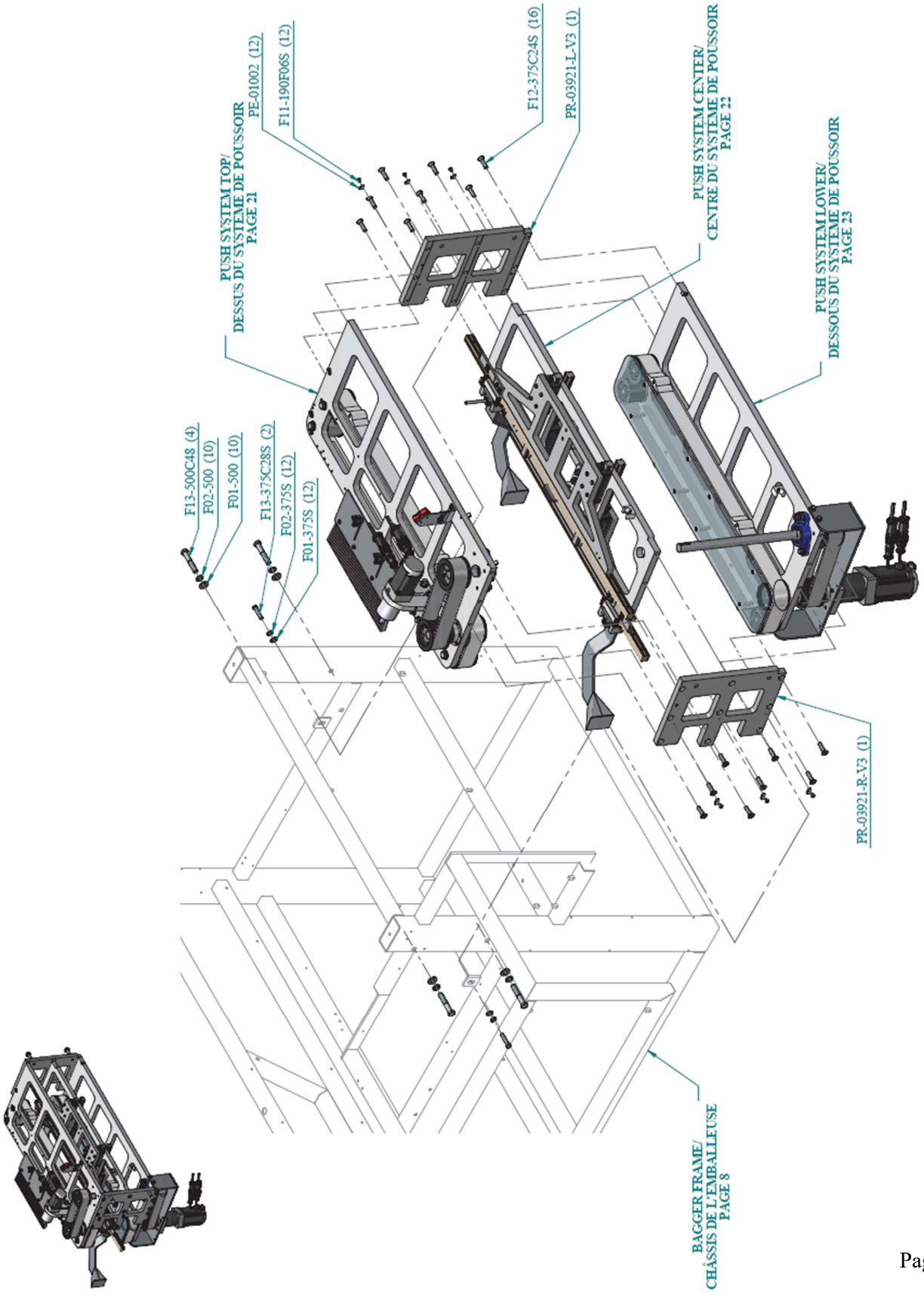
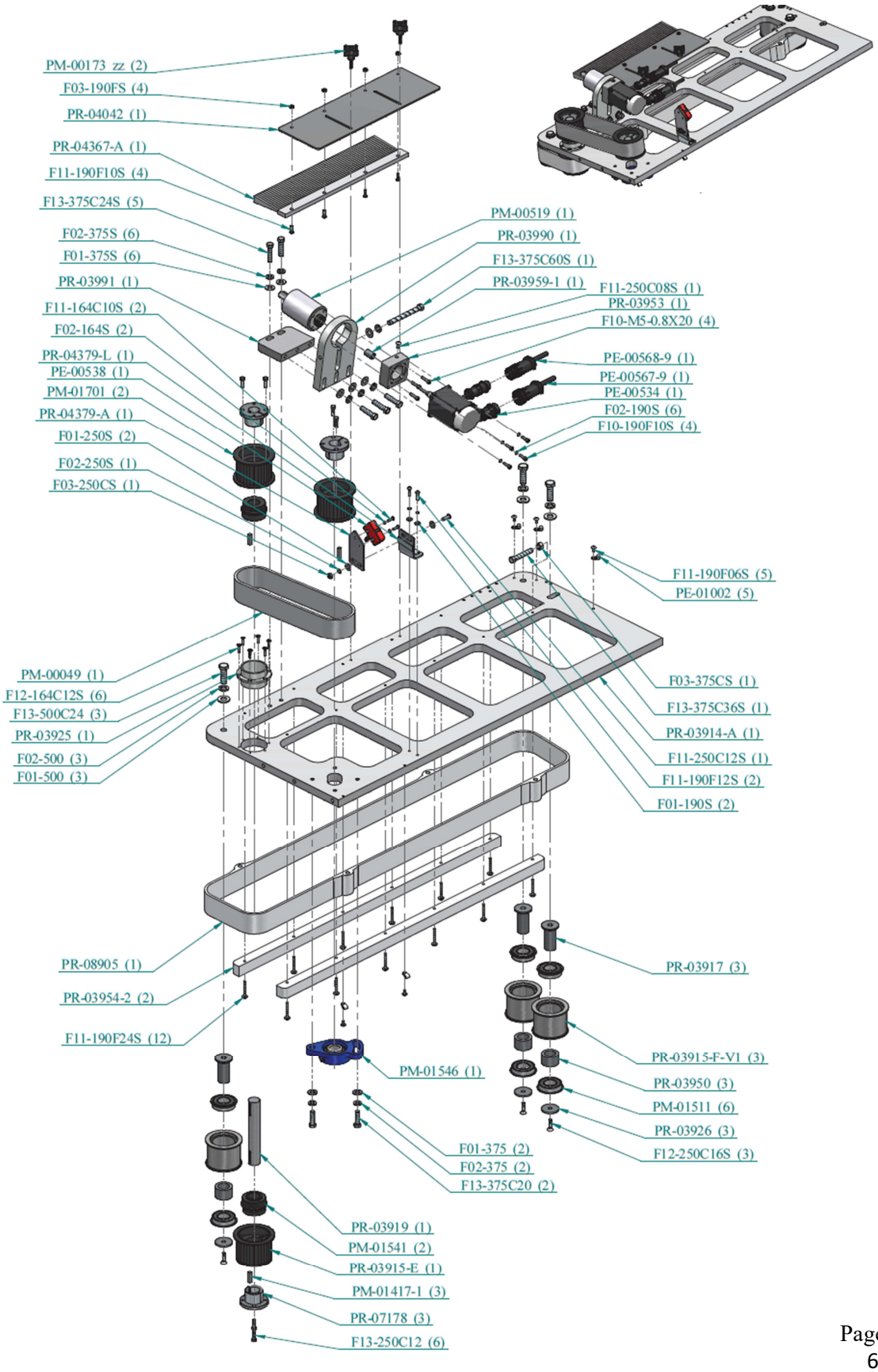
PR-04317-2 (12)
PR-06628-R (5)
PR-06630 (5)
F05-188-32S (5)
F12-138C03S (10)
F03-250CS (1)
F20-187Q (2)
PR-08413 (2)
PR-08276-1-L (1)
PR-04323-E-1-L (1)
F11-250C24S (8)
PR-03693-1 (1)
F10-190F10S (1)
F10-250C40S (1)
PR-08279-1 (2)
OW-002S (1)
PP-00660 (2)
F01-250S (1)
F10-250C44S (1)
PR-04318-3-L (6)
F06-250C04 (24)
PR-04318-A (24)
PR-04318-2-L (6)
F10-250C20S (2)
F11-250C20S (8)
F02-250S (18)
PR-04323-C-3 (1)
PM-00401 (10)
F11-190F12S (4)
F06-190F08S (4)
F02-190S (4)
PR-04323-1 (2)
PR-04323-A (1)
F11-164C06S (48)
F06-250C06 (14)
F10-190F12S (1)
PR-03693 (1)
PM-00316 (2)
F01-375S (2)
F02-375S (2)
F13-375C20S (2)

# PUSHERS SYSTEM



# PUSHERS SYSTEM TOP



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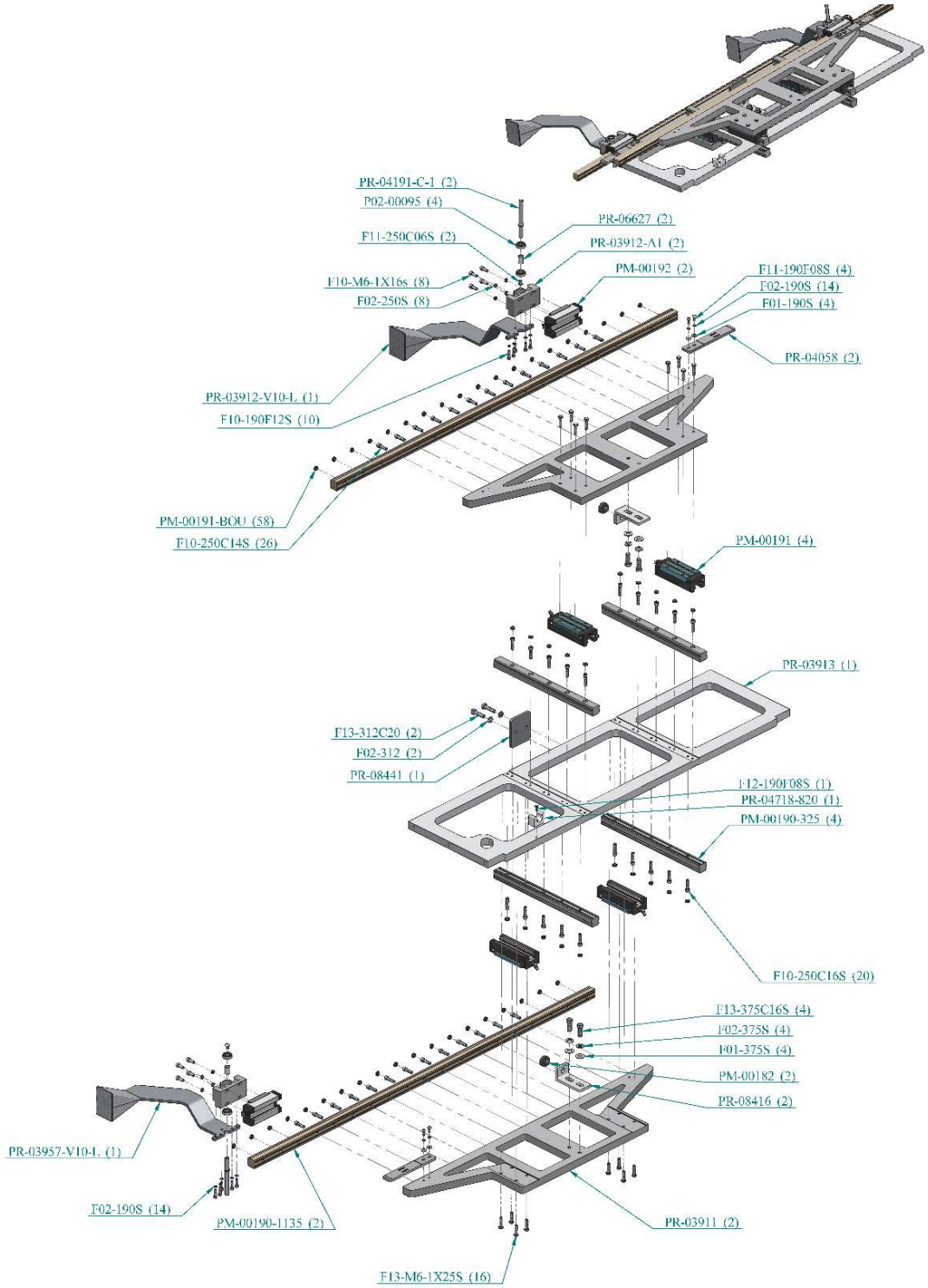

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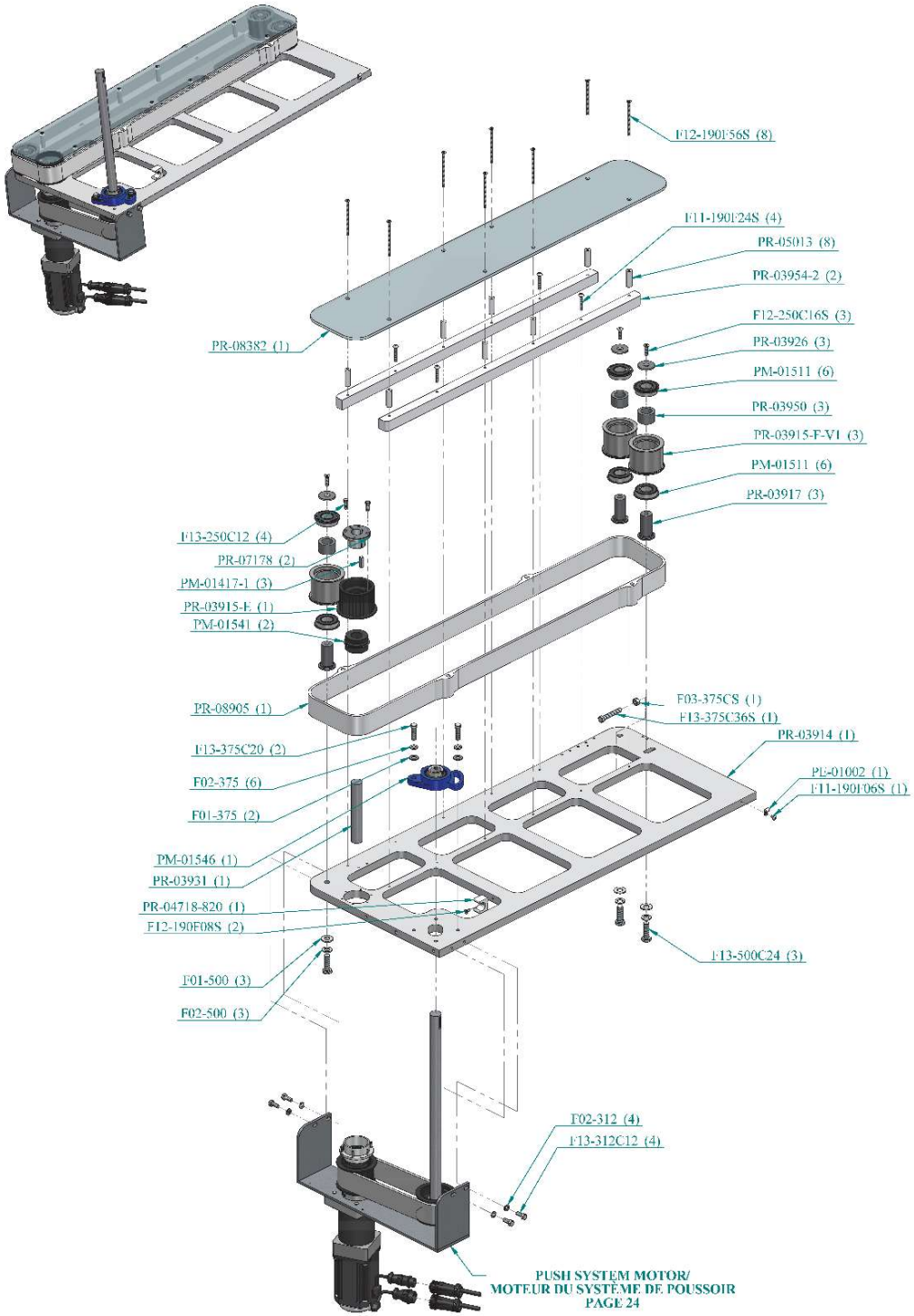
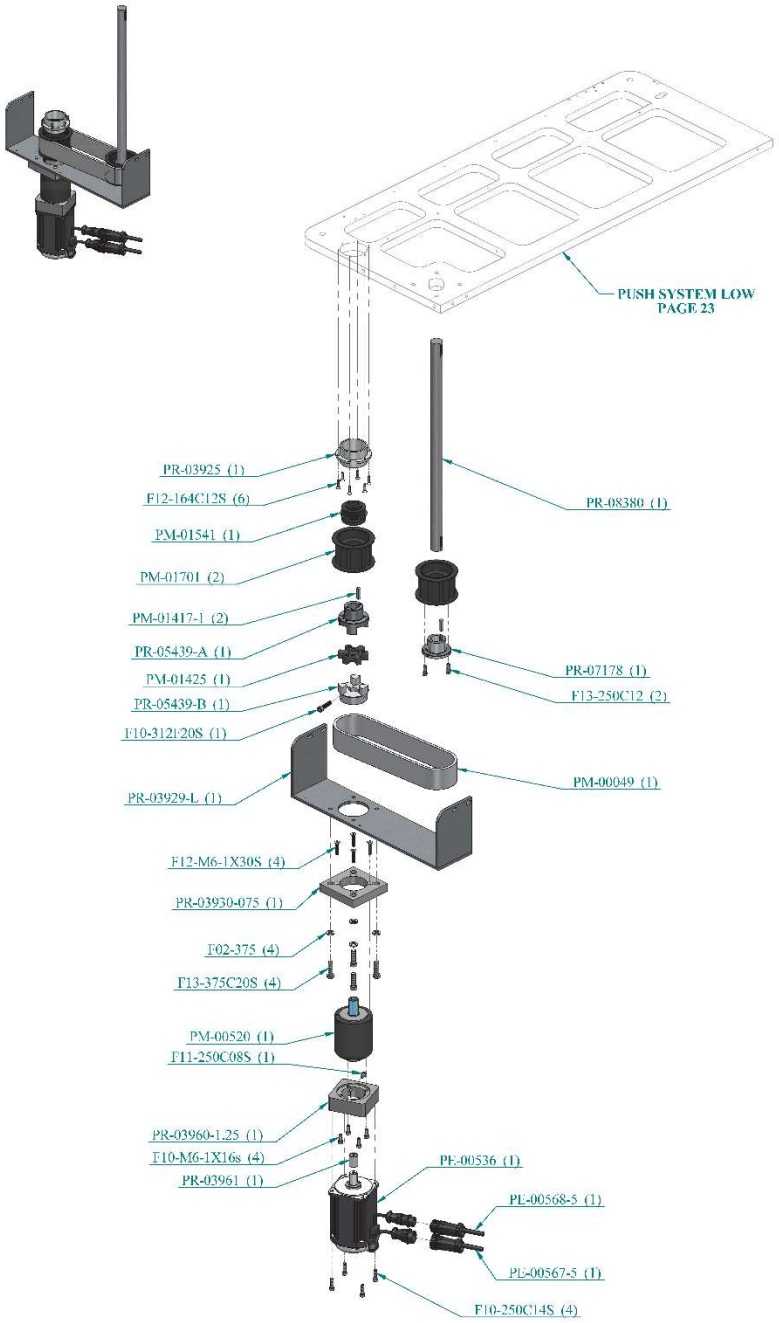
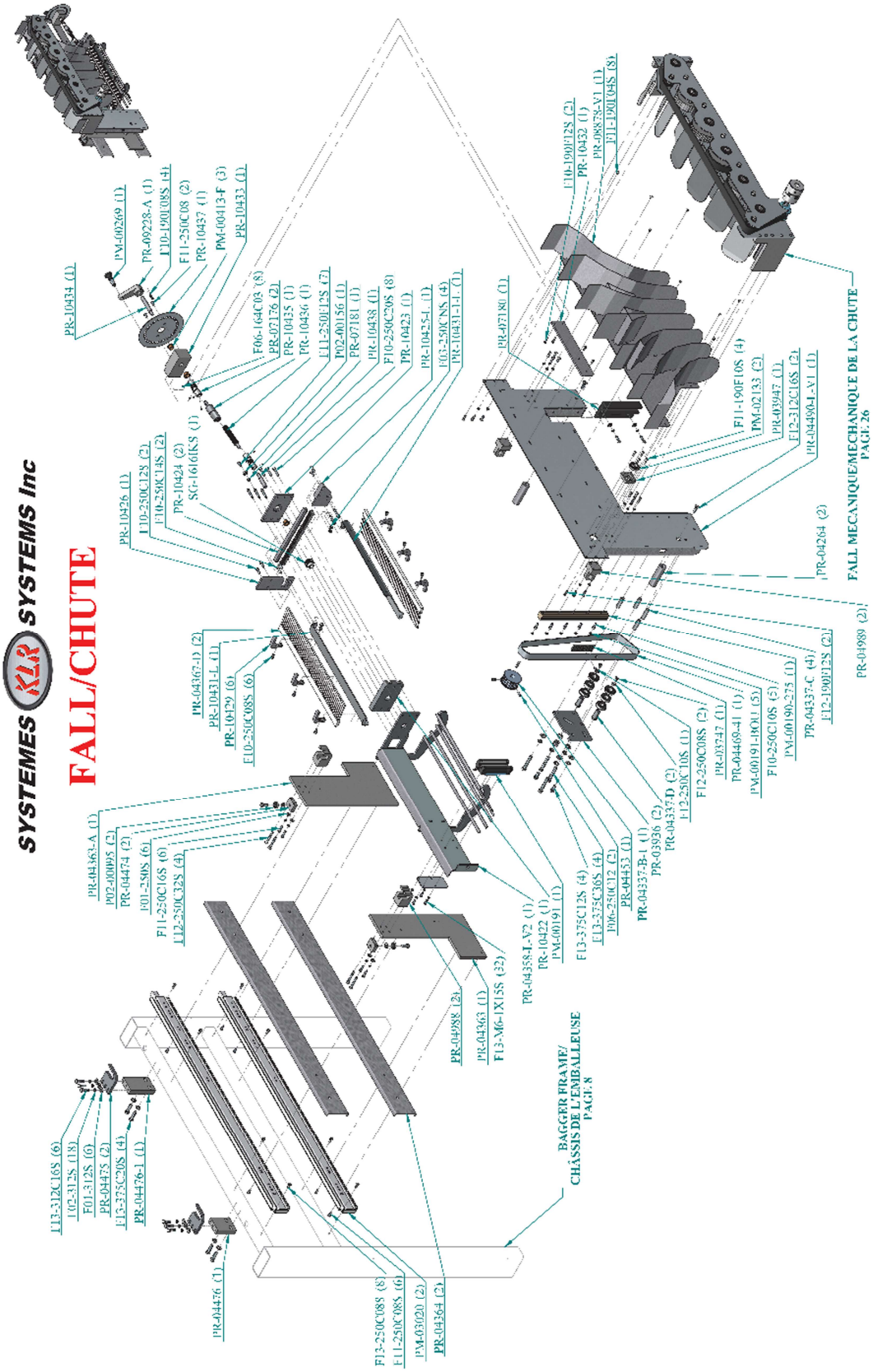


# PUSHERS SYSTEM MOTOR

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# FALL MECANIQUE/MECHANIQUE DE LA CHUTE

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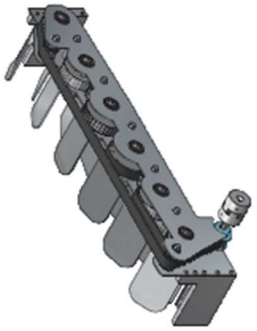

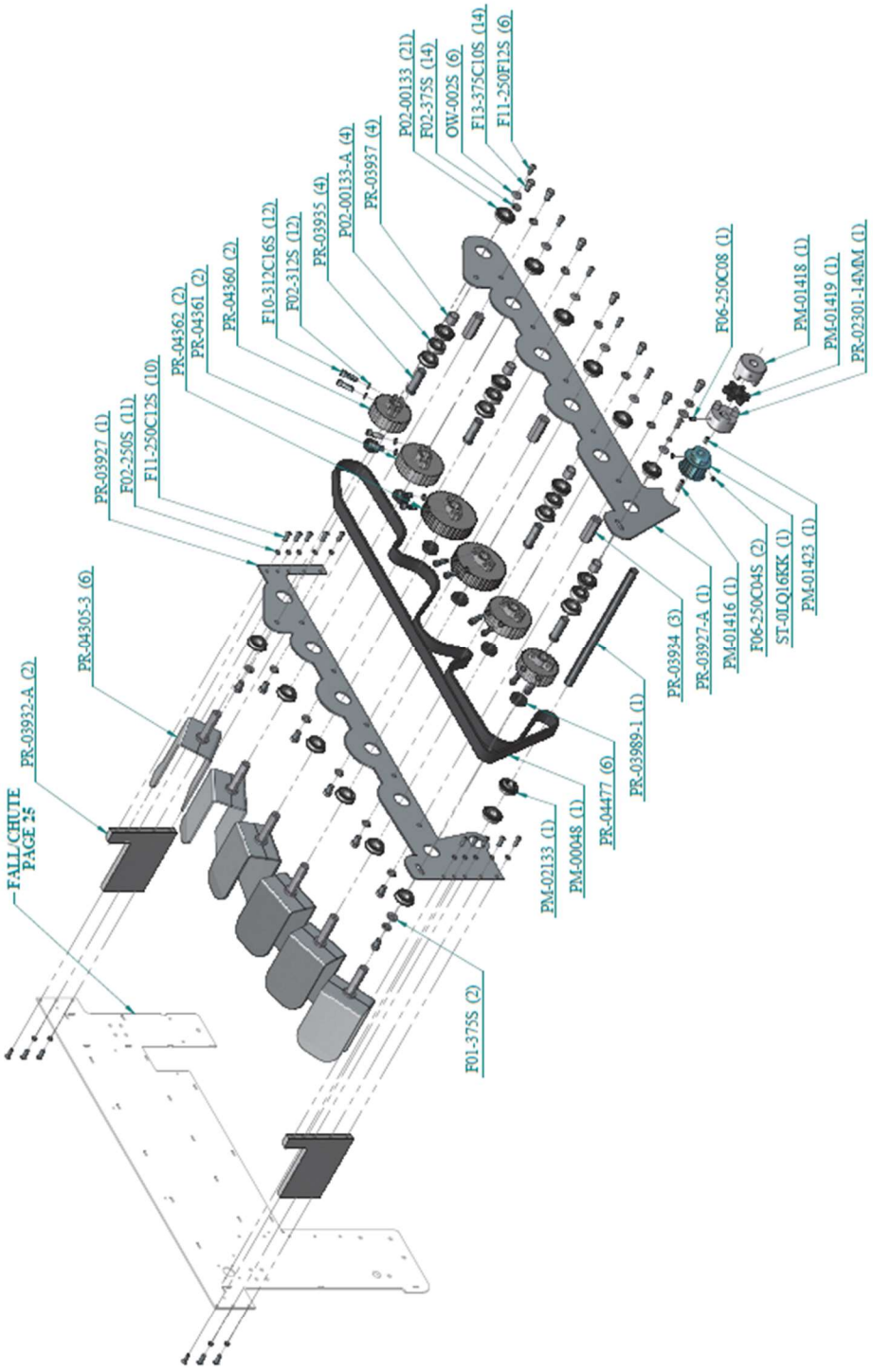

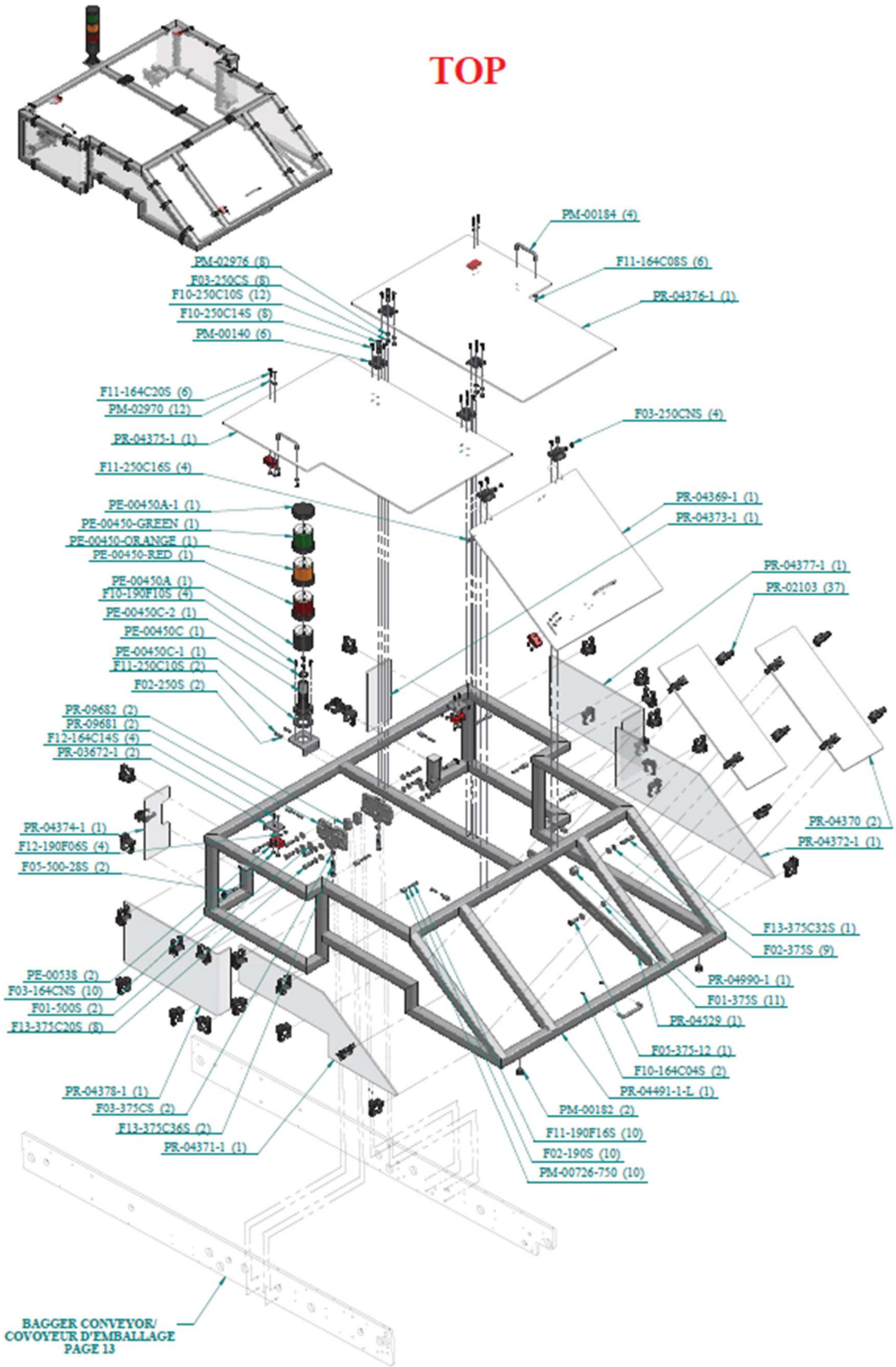
TOP
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PM-02976 (8)
F03-250CS (8)
F10-250C10S (12)
F10-250C14S (8)
PM-00140 (6)
F11-164C08S (6)
PR-04376-1 (1)
F11-164C20S (6)
PM-02970 (12)
PR-04375-1 (1)
F11-250C16S (4)
F03-250CNS (4)
PR-04369-1 (1)
PR-04373-1 (1)
PE-00450A-1 (1)
PE-00450-GREEN (1)
PE-00450-ORANGE (1)
PE-00450-RED (1)
PE-00450A (1)
F10-190F10S (4)
PE-00450C-2 (1)
PE-00450C (1)
PE-00450C-1 (1)
F11-250C10S (2)
F02-250S (2)
PR-04377-1 (1)
PR-02103 (37)
PR-09682 (2)
PR-09681 (2)
F12-164C14S (4)
PR-03672-1 (2)
PR-04374-1 (1)
F12-190F06S (4)
F05-500-28S (2)
PR-04370 (2)
PR-04372-1 (1)
F13-375C32S (1)
F02-375S (9)
PE-00538 (2)
F03-164CNS (10)
F01-500S (2)
F13-375C20S (8)
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F01-375S (11)
PR-04529 (1)
F05-375-12 (1)
F10-164C04S (2)
PR-04491-1-L (1)
PR-04378-1 (1)
F03-375CS (2)
F13-375C36S (2)
PR-04371-1 (1)
PM-00182 (2)
F11-190F16S (10)
F02-190S (10)
PM-00726-750 (10)
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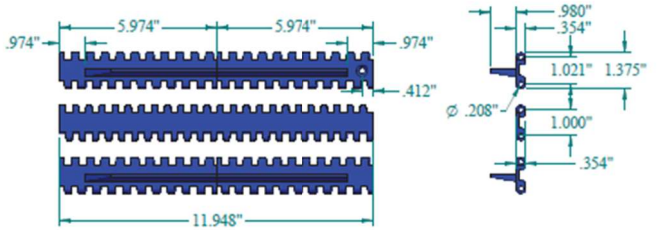
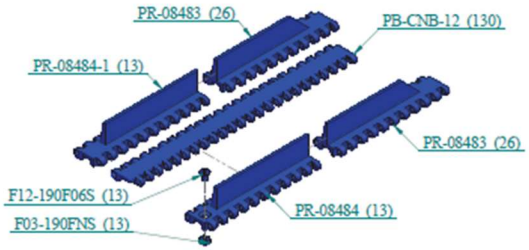
CONVEYOR BELT/
COUROIE DU CONVOYEUR

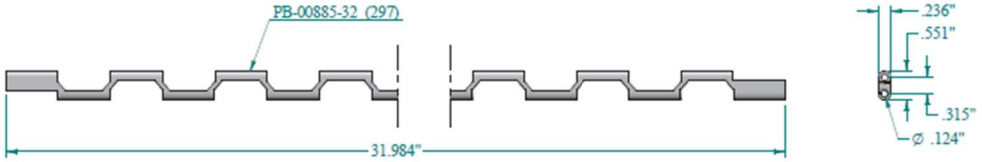
SYSTEMES KLR SYSTEMS Inc

# BELT/COUROIE



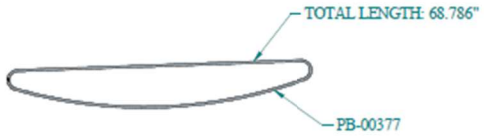

## BAGGER CONVEYOR BELT

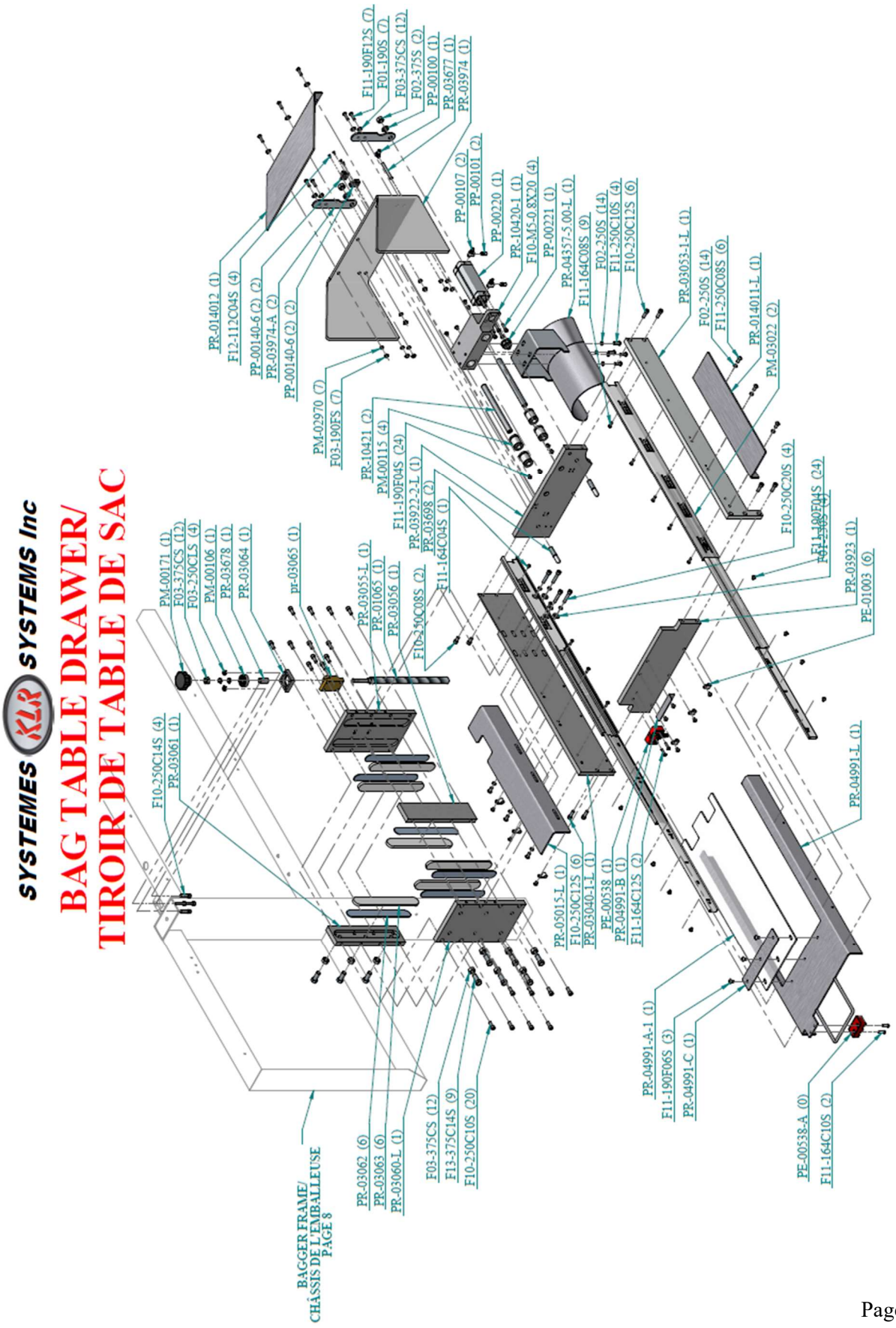






## BAGGER CONVEYOR CHAIN BELT






**IMPORTANT: IMPROOVED AIR SYSTEM MODFICATION FROM PAGE 16**