KLR **5050-16**

944, Des Hérons
Saint-Pie, (Qc) Canada
J0H 1W0

T : (450) 388-0404
T : 1-800-918-8777

info@klrsystems.com
www.klrsystems.com

MADE IN CANADA

DEPUIS/SINCE
1977

TABLE OF CONTENTS

0.0: REVISIONS NOTICES

2021-04-12 (31006-beyond):

- Implementation of the revisions system according to serial numbers and date.
- Added sg4 enhanced security guards exploded views (12.0 and 13.0).

2021-05-25 (33031-beyond):

- Added option INDEX including how to recognize a left from a right machine (3.1), new set of parameters dedicated to this option (5.2.1) and exploded views new section (14.0).
- KLR.5050-16-INDEX models added to the list designation (2.1)
- Added parameters descriptions of open scoop (fwd) and delay scoop return (ms) because it was missing (5.2.1)

1.0: SAFETY PRECAUTIONS

- The Flat bread bagger is covered with a safety door. For any interventions during functioning of the machine regarding to product jam, material disfunction, cleaning, etc: operator must open the door to stop the machine assuring maximum safety and minimizing risk;
- 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 opened or closed, keep hands away from the working machine. Go against this notice can result in a severe injury or death;
- Always use two (2) lockout devices, one on the supply and one on the air supply when performing any maintenance or cleaning;
- 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, you should 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 parts as it was when finished.
- When closing the safety door, careful about the pinch points. Make sure nobody's hands or fingers are in the way;
- When the air supply is OFF and it is required in a maintenance to move manually the bag table in order to access something. When the maintenance is over, DO NOT put the pressure back if the machine is in ready state. ALWAYS push the emergency button before putting the pressure on the machine. Go against this notice can result in equipment damage;
- When the air pressure is turned ON, the bag table may move promptly depending of what position is the bag table valve. To avoid this problem, unscrew the air regulator until it reaches 0 pressure before Turning ON the main air pressure, Then crank slowly the air supply regulator back to 80 PSI . Go against this notice can result in a severe injury or death.

2.0: IDENTIFICATION

2.1: Product brand and type designation:

Automatic Flat Bread Bagger

Models:

- KLR.5050-16
- KLR.5050-16-INDEX

Serial number location:

On the side of the infeed conveyor near the control panel.

2.2: Name and manufacturer contact:

KLR SYSTEMS INC. Packaging systems manufacturer

Address: 944 rue des Hérons,

City, province, Country: Saint-Pie, Québec, Canada

Zip code: J0H 1W0

Phone: 450-388-0404

Web site: http://klrsystems.com/

Technical support Email: support@klrsystems.com

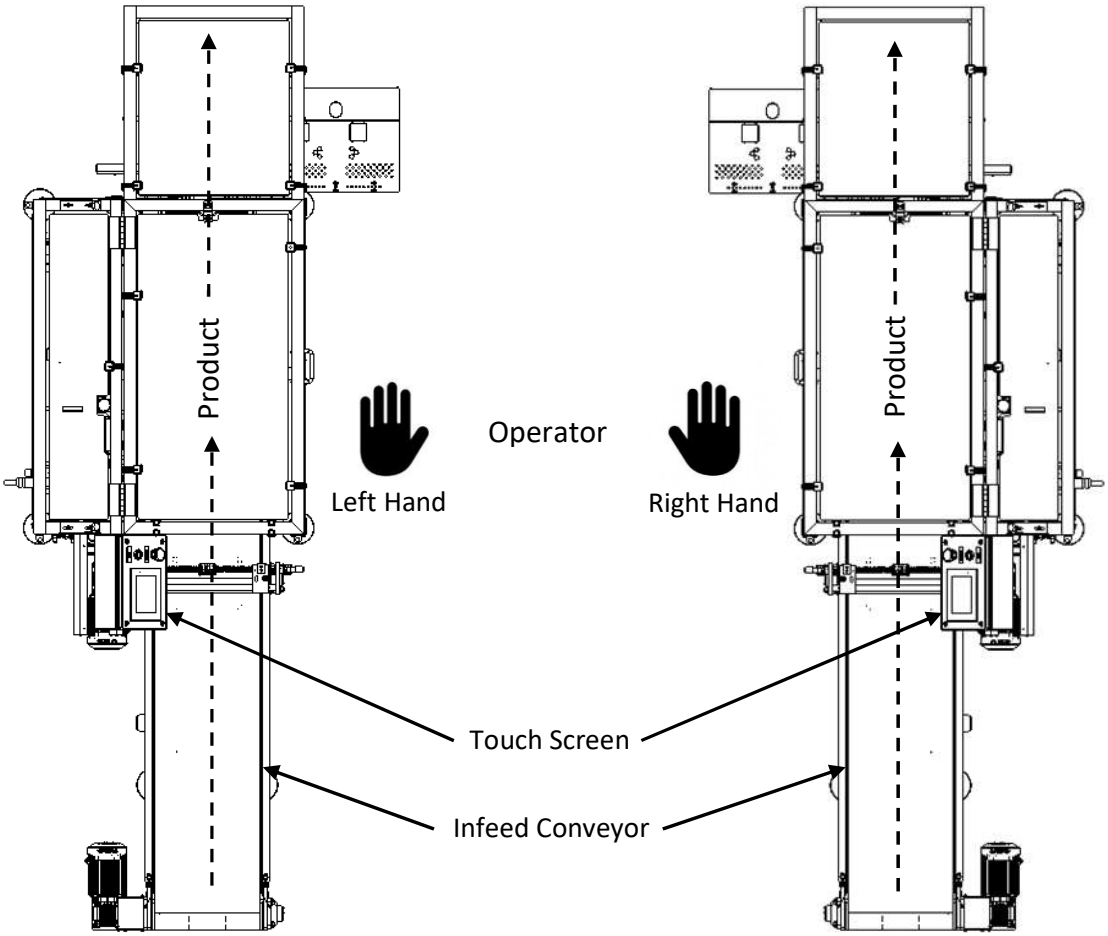
For other information: info@klrsystems.com

3.0: PRODUCT SPECIFICATION

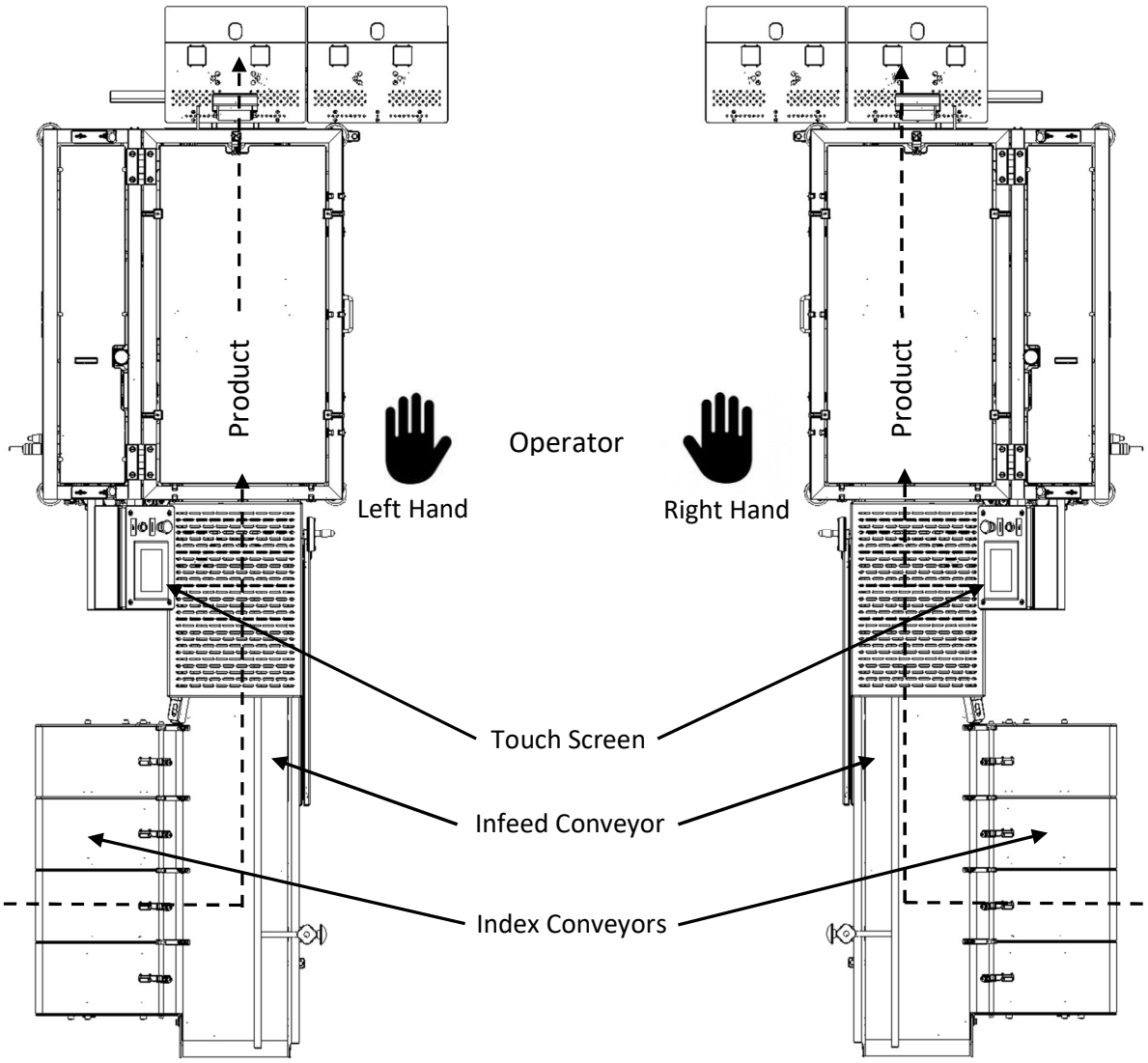
3.1: Right or left version

Standing on the operator side of the machine (able to work with the touch screen) and looking toward the direction of products. The hand closer to the machine tells what version (right or left).

KLR.5050-16 (Basic)



KLR.5050-16-INDEX



3.2: General functions intended use:

Equipment designed to bag flat bread.

3.3: Dimensions

High: 55"

Long: 130"

Depth: 45"

3.4: Power data – Electricity and Pneumatic

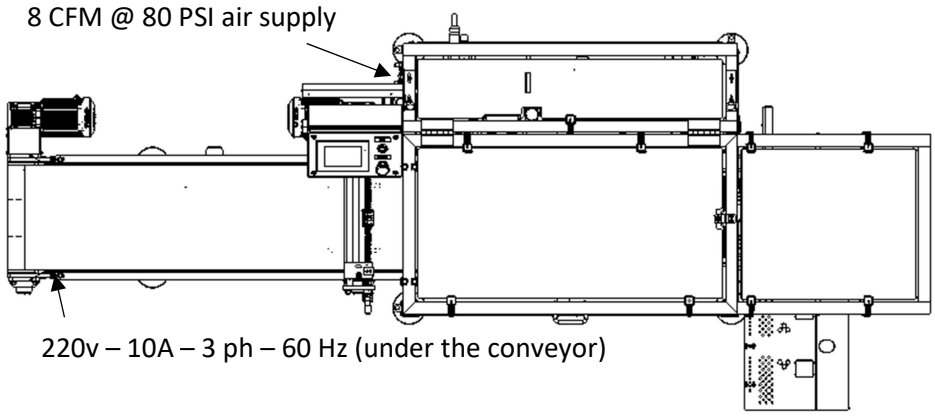
Electricity: 220 volts – 10A – 3 phases – 60 Hertz

Pneumatic: 8 CFM @ 80 PSI

4.0: INSTALLATION

4.1: To verify before the arrival of the machine

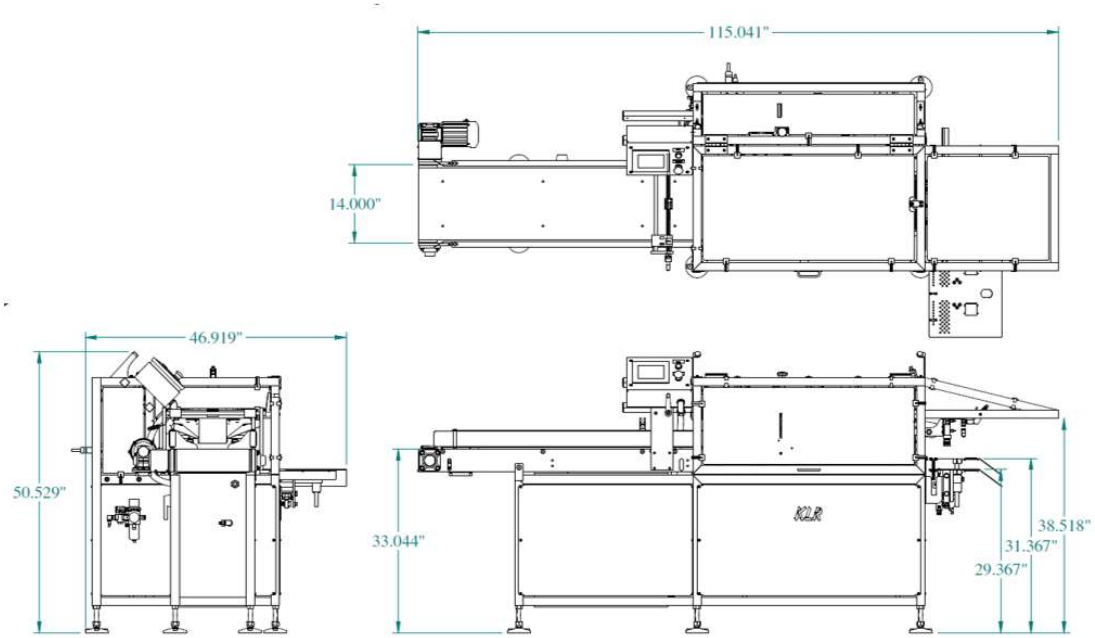
1. Check the minimum space required. More complex layout will be provided by KLR.
2. Make sure to have the proper electric and air line setup ready. Leave rooms for error. The following machine is a left version.



3. Make sure your bags are suitable for the equipment.
4. Make sure to receive the appropriate bag closing machine prior to installation.
5. An appointment with an electrician on day 1 of installation in order to wire the machine.

4.2: Minimum space required

Here is the machine stand alone (no outfeed conveyor since layout can be adapted to the customer needs)



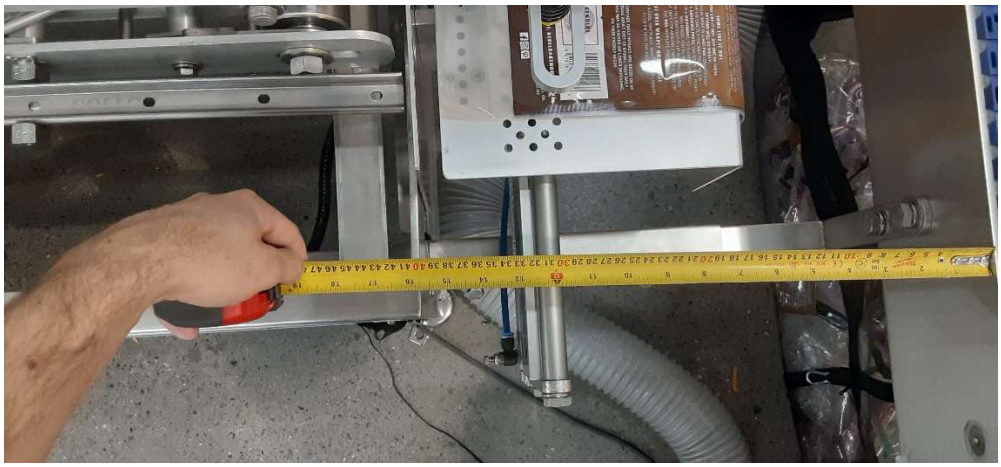
4.3: Procedure for unpacking

1. Remove all red marked screws from the wood box (If crated).
2. Remove all screw from the legs.
3. With a forklift gently lift the machine from underneath the frame, use protective pad to avoid any damage.
4. Move back with the forklift drop the machine as low as possible as soon you are out from the wood box.
5. Move the machine to the proper location.

4.4: Setup and measure with an outfeed conveyor

To install the conveyor, make sure to acknowledge the following information:

1. Distance between the conveyor and the frame of the machine: about 15 ¾ inches.



2. Use a 9/16 key to tight the (2) screws on the conveyor holding bracket.
3. When moving the tray above the conveyor, there must has a gap in between both plates like shown on the picture.

4. Measure from the top of the belt should be around 1 inch. Take note plates have some deflection in operation.

5. Now place your **thickest** product on the infeed belt, there should have still some gap from the top retract belt like shown on the picture.

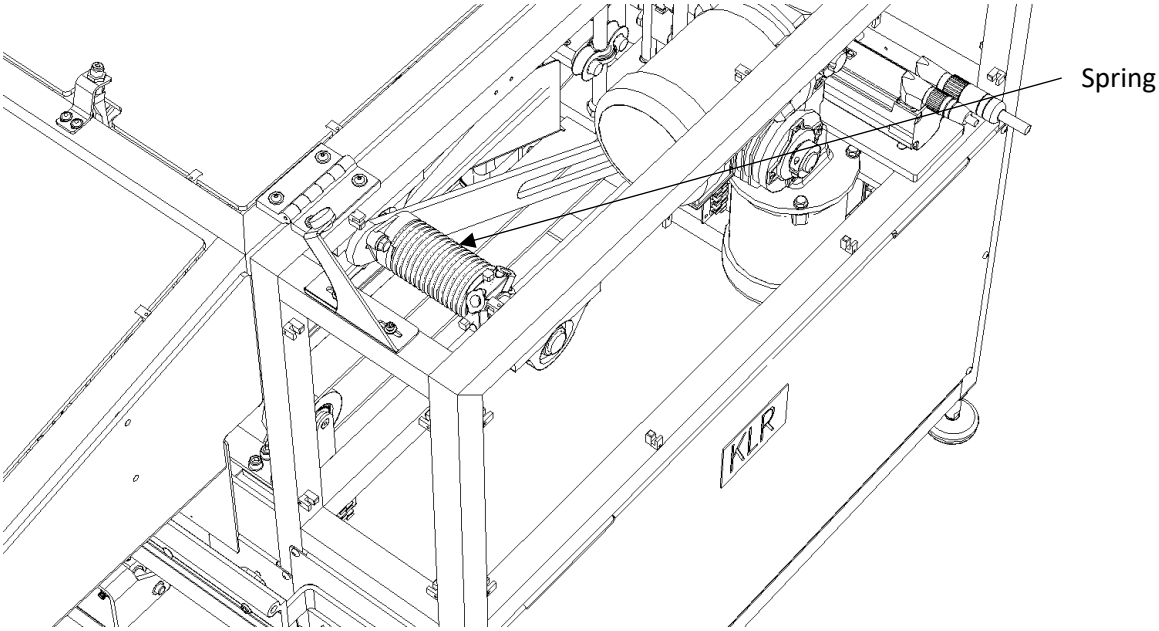
6. If your product is way thicker than that (like on the picture), then continue with **step 7**. If not pass to **step 10**.

7. Adjust the crank on top of the machine for your thickest stack of product

8. Remember to check the plate gap each time you adjust the top crank. If you have this result, pass to **step 10**.

9. Adjust the spring only if step 8 is not reached. Adjust the spring by holding the tension (not a dangerous tension) with a holding tool (a big Allen wrench work just fine) in the machined holes, then loosen the (2) red screws with a 3/8 key. Apply more or less tension on the spring and tight it. Test step 3.

Note: It might look like a trial and error procedure but try putting a line of sharpie to help remembering the previous location. It helps greatly.



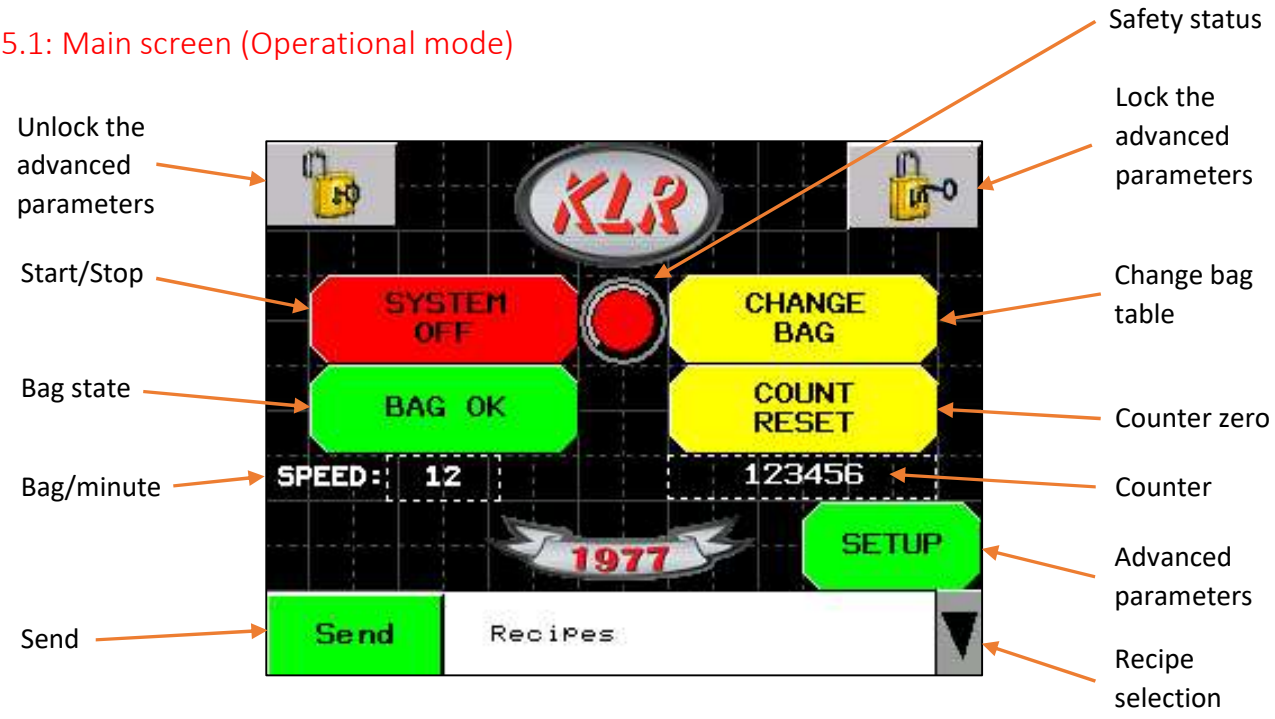
10. Your good to continue with the testing phase.

4.5: Requirements for fixing/anchoring the machine

1. Wait after satisfaction of the testing phase.
2. Drill in the floor for at least one anchors per legs and install the appropriate anchor according to the floor type.

5.0: OPERATION

5.1: Main screen (Operational mode)



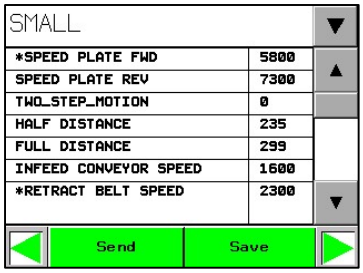
Once the power turned ON, the machine and the main page appears, follow these steps to start the bagger (refer to the "Product size change" section for more information):

- Install the wicket bags on the bag table. The Bag status should be green.
- Select the appropriate product recipe with the Recipe Selection and press "Send".
- Make sure the door closed securely. Pull the emergency stop button and press the Reset button. The Systems Status indicator turn green.
- Press Start on the touch screen and the status indicator will change to green with “System on”.

5.2: Recipe setting page

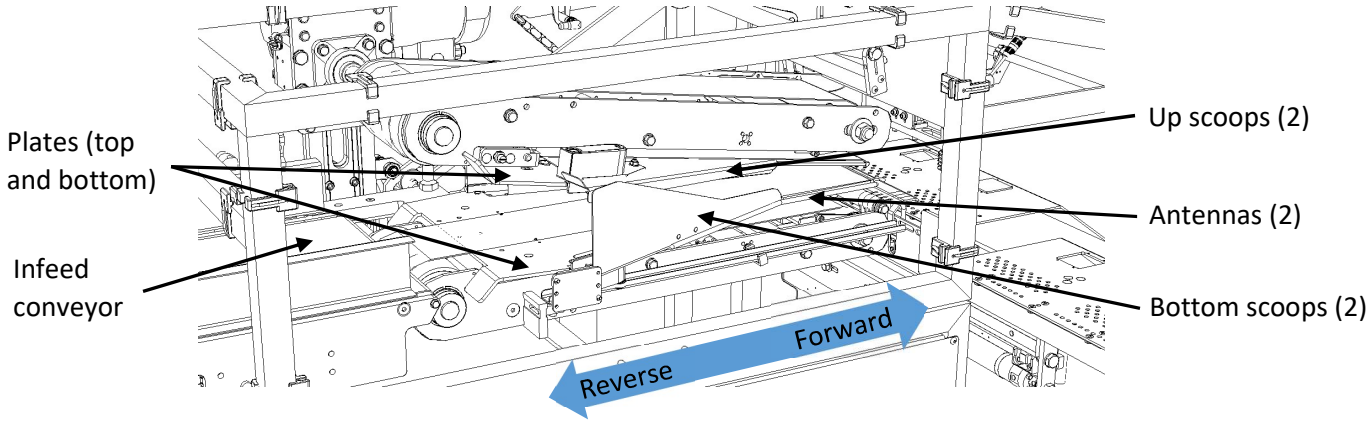
⚠	➢ It is possible to adjust parameters to the point of a malfunction of the packaging machine. Exercise caution when making parameter changes and make changes in small increments. See recipe manager (next page) to save your recipe and be able to keep track of your changes.

Advanced Settings must be unlocked on the Main Screen to change recipe parameters.



5.2.1: Definitions of parameters

This figure below will be used to describe couple next parameters. Keep in mind that picture features a full options machine. General parts remain the same concept through all the machines. With parameters that only available with certain options will not be visible from the display. In this document, all parameters are explained in the same order of the touch screen.

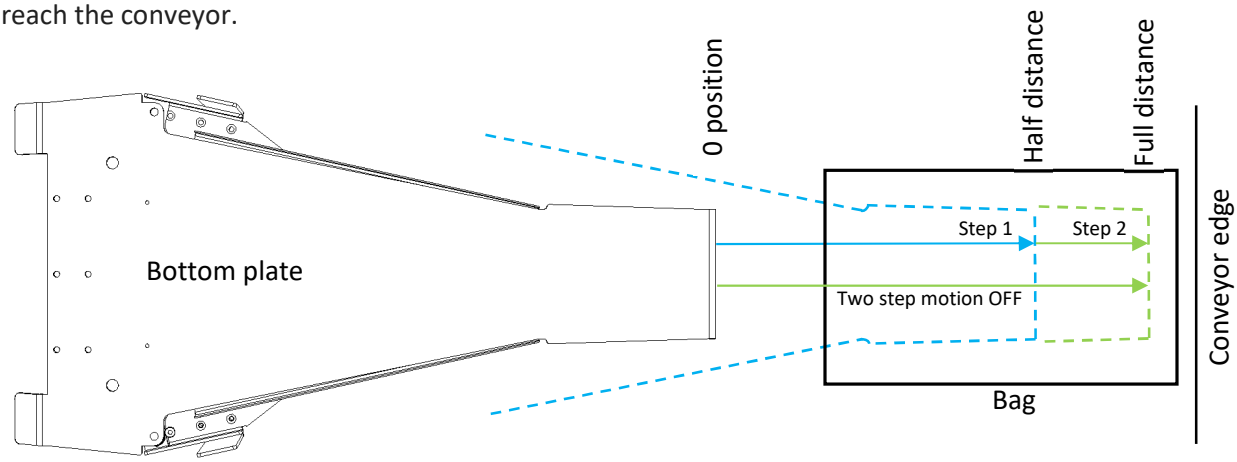


Speed plate Fwd (see picture above)
Speed in hertz multiplied by 10 (hz x10) of the plates when moving forward in the bag sequence. Raise the number to raise the speed. Most of the recipe will be between 2000 and 6000. Finetuning this parameter is necessary when the product arrives first in front, in this case it need to be lowered down. The goal is: when the plate has reached the destination, the product should arrive just after.

Changing this parameter may required to revisit other parameters. Check: retract belt speed and delay plates (ms).

Speed plate Rev (see picture above)
Speed in hertz multiplied by 10 (hz x10) of the plates when moving reverse (back) in the bag sequence. Used specially to retract quick enough from the bag, to avoid the infeed conveyor stopping too often and loosing efficiency. Value should be rather high but can be lowered down to save on the mechanic side when the package per minute is low.

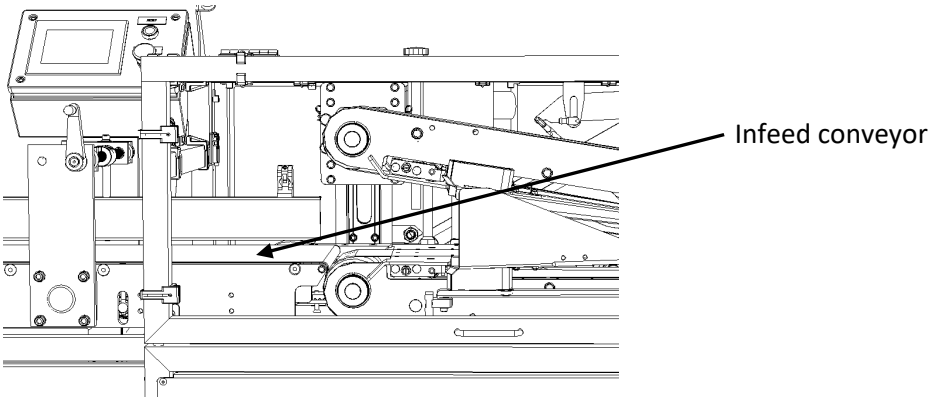
Two step motions
Option allowing the plates to split his motion in two steps to wait a certain amount of time at a predetermine position inside the bag. 0 = not activated, 1 = activated. Used when the bags are small, and the plate need to travel further to deposit the bagged product on a conveyor. In other words, step 1 (in blue) would be required to bag properly and step 2 (in green) would be required for the product to reach the conveyor.



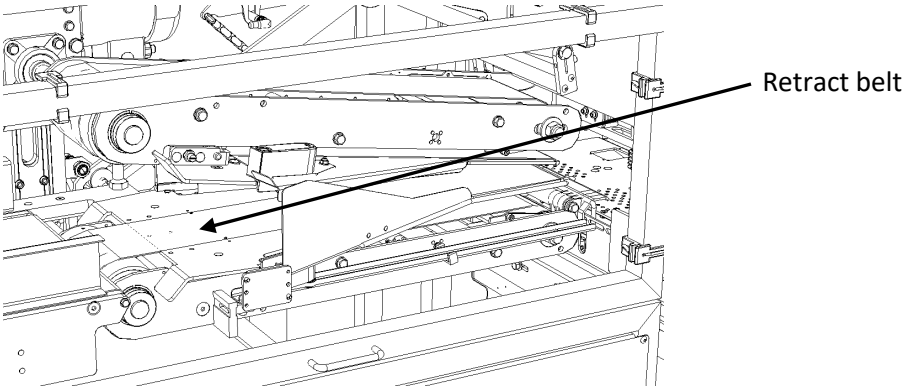
Half distance (see picture above)
This parameter is only relevant if "two step motions" is activated (1). Value at which the plates stop to step 1. Value is between 10 and 380. Most of the machines are set between 200 and 250.

Full distance (see picture above)
Place where the plates are set to stop to step 2. Value is between 10 and 390. 390 is the maximal distance allowed.

Infeed conveyor speed
Setting in hertz multiplied by 10 (hz x10). Raise the number to raise the speed. The speed allowed is between 10 and 2700. If the speed needs to be changed, consider checking "Stop infeed delay (ms)".

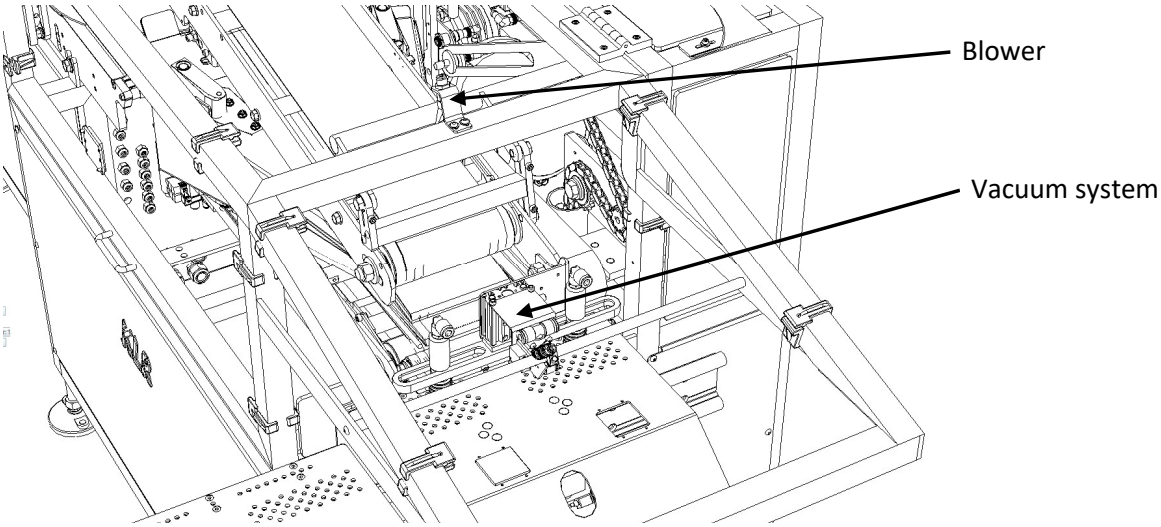


Retract belt speed
Setting in hertz multiplied by 10 (hz x10). Raise the number to raise the speed. The speed allowed is between 10 and 3000. A speed too high would make the product arrives before the moment the scoops open. On the other hand, a speed too low would not let the product enough momentum to reach the bottom of the bag leaving a gap.

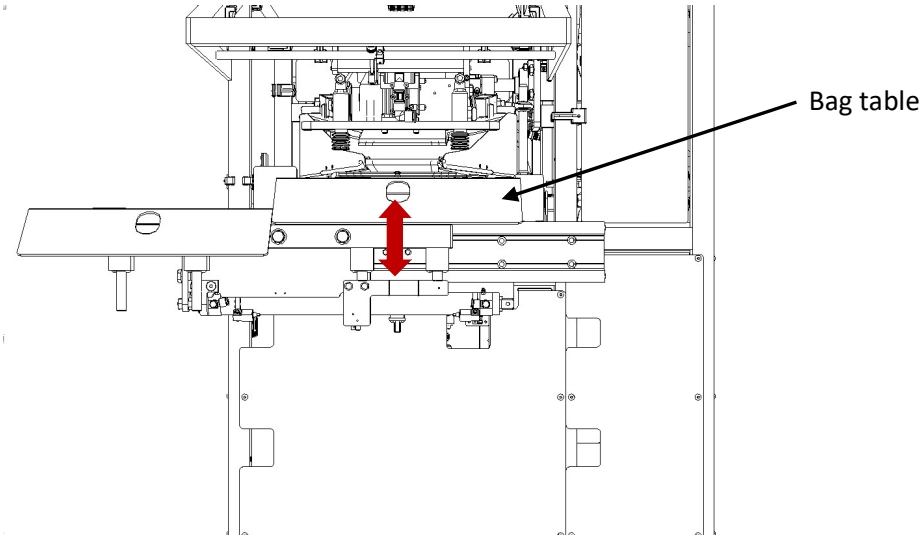


Outfeed speed
Only if the bagger is equipped with a outfeed conveyor from KLR. The setting is in hertz multiplied by 10 (hz x10). Raise the number to raise the speed. The speed allowed is between 10 and 2700. To be set so the products have at least a little space in between when travelling onto it.

Stop bag opener (fwd)
This parameter is the combination of either blower or vacuum system that open the bag. Vacuum system is an option while blower is on every machine. When the plates can move, it travel from 0 position to full distance (from 0 to 390 max). When the plates are moving forward and reach the "stop bag opener (fwd)" value, then either the blower or the vacuum stop. Bag opener start when the infeed sensor sees a product. Do not put higher value than "full distance"



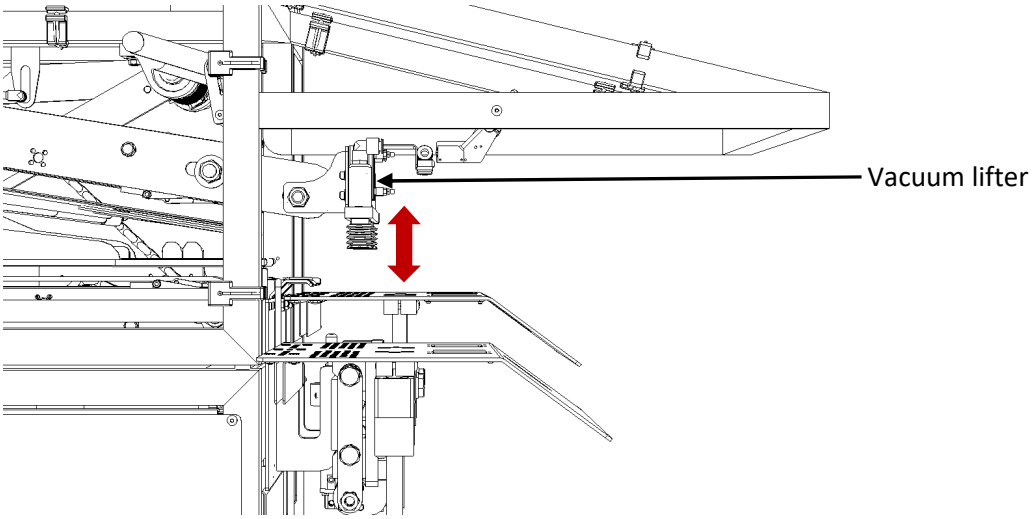
Start bag lifters (ms)
Delay in milliseconds the machine waits before the bag table go down. The delay starts when the plates start their motion. The bag table should go down approximately when the product reaches the end of the plates. A too long delay may either roll the product at the bottom of the bag or the bag never get detached. A too short delay may do the same.



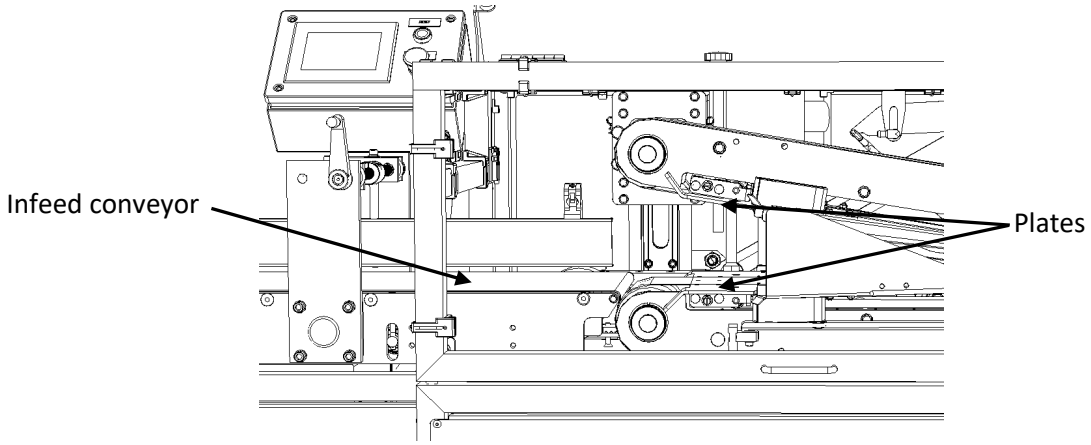
Front view

Stop bag lifters (rev) (see figure above)
When the plates travel back from full distance to 0 position (from 390 max to 0) and reach the "stop bag lifter (rev)" value, the bag table lift back up. The plates must get out the way before the bag table can lift because the bottom plate could bring some bags with it when it travels back.

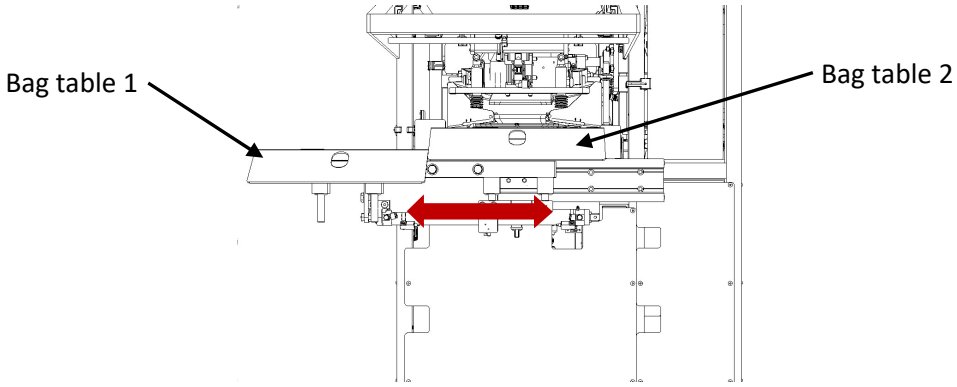
Stop vacuum lifter (rev)
The normal position of the vacuum lifter is down. When the plates travel back from full distance to 0 position (from 390 max to 0) and reach the "stop vacuum lifter (rev)" value, the vacuum lifter back down.



Restart infeed (ms)
When the plates have traveled back to their 0 position, the machine waits this time in milliseconds before starting back the infeed conveyor. If there is no product waiting, the infeed conveyor would still run.



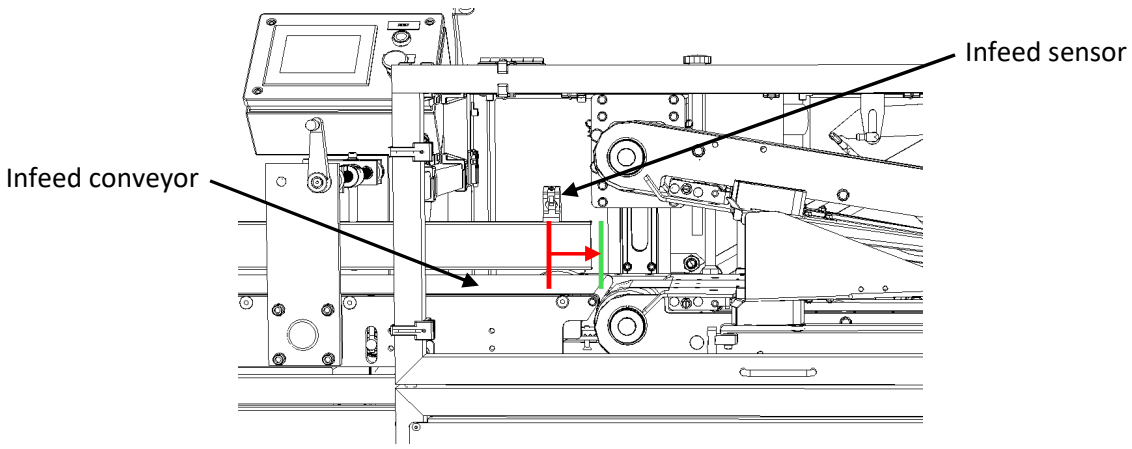
Change bag auto
Option change automatically the bag table when it's empty. 0 = not activated, 1 = activated



Time plate stay half (ms) (see "two step motions" figure)
Time in milliseconds the plates stay in the half distance position. This parameter is only relevant if "two step motions" is activated.

Time plate stay full (ms) (see "two step motions" figure)
Time in milliseconds the plates stay in the full distance position before running back.

Stop infeed delay (ms) (see next figure)
This parameter is only relevant when the products arrive really close each other. This delay will start only if a product is already inside the plates and another product arrive. It is the time the infeed takes to stop when a product triggers the sensor located on the infeed conveyor. From the time the sensor sees a product (red line) until it reaches the end of the infeed belt (infeed must stop when the product reaches green line). The position of that sensor is subject to change from a machine to another.

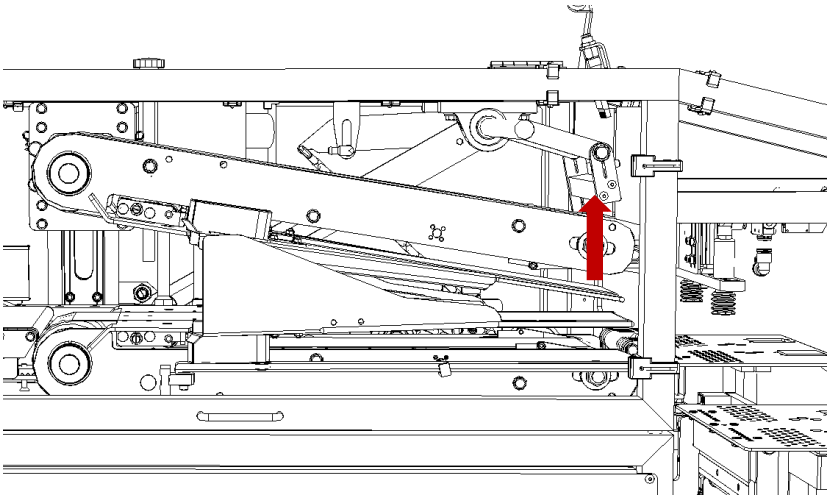


Belt tension
Torque that the servo can give to the mechanics. Used to make the tension of the retract belts in the procedures. Value must be in relation to the width of the belt currently installed on the machine.

Vacuum 1/blower 0
The machine must have the vacuum option to get this parameter. Machine use the vacuum when the machine is set to 1, and it uses the blower as the bag opener when the machine is set to 0.

Bypass
When set to 1, the machine is in mod bypass.

Height
This parameter is only available with "up/down servo" option. Value given to ''the up/down servo'' to raise the top plate at the height value during the bagging sequence. The value is associated to the thickness of the product stacks; it does not correspond to a measure.



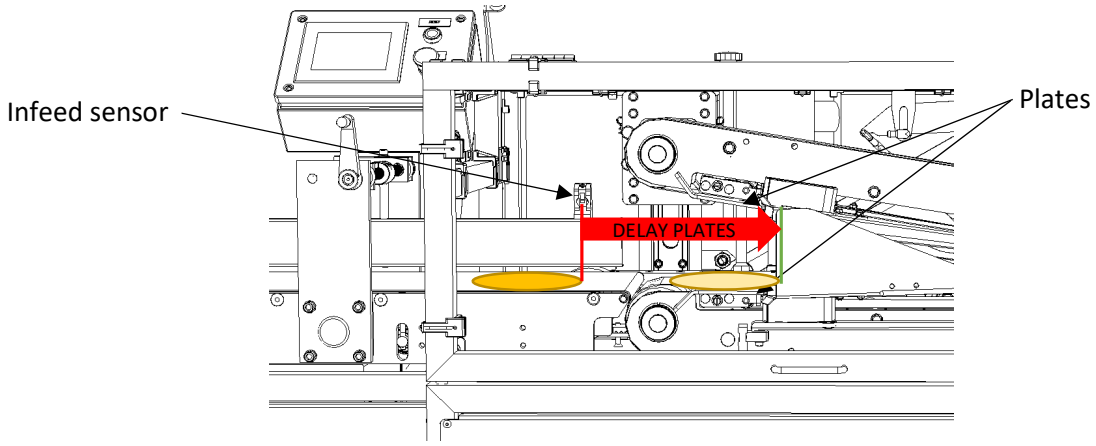
Home position
Value is between 0 and 20. It is the normal position, where the machine is waiting for product.

Speed up
This parameter is only available with up/down servo option. It reacts in relation of the parameter "Height". The value tells the machine how fast the top plate has to raise to the height value during one cycle. Raise the value will increase the speed. That speed is constant (except the acceleration and deceleration of the drive itself). A too slow value will either jam the product inside or make the retract belt slip.

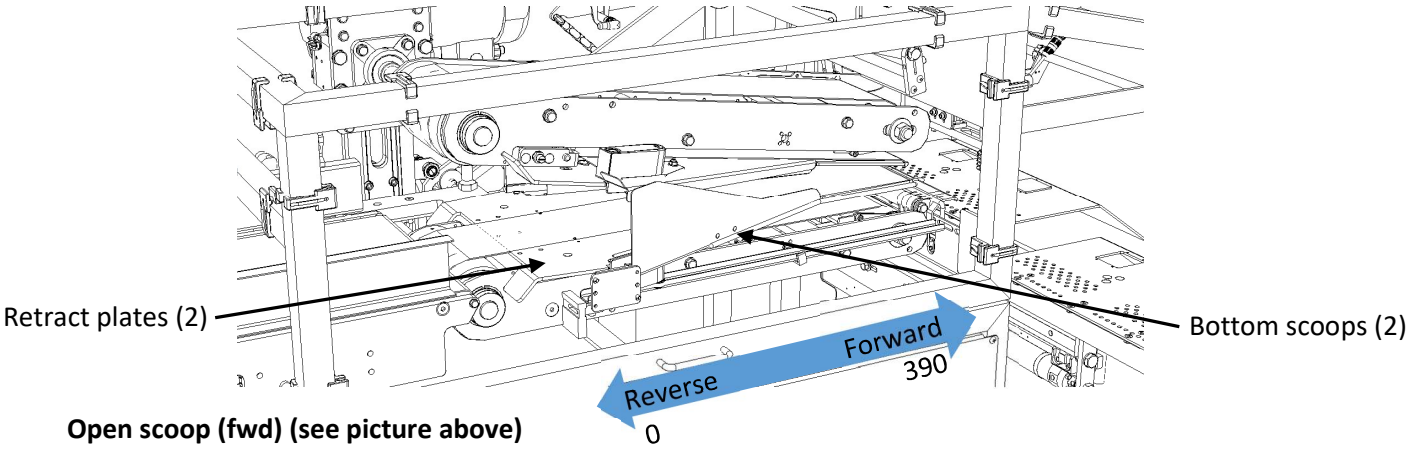
Speed down
This parameter is only available with up/down servo option. It tells the machine how fast the plate comes back to the homing position after the bagging sequence

Bag flattener (option)
Only available with the bag flattener option (Installed on the outfeed conveyor)
1= ON; 2= OFF

Delay plates (ms)
Time the machine waits starting the plates cycle from the moment the infeed sensor is triggered. Product must be sitting onto the plates before launching the plates. Will change according to the size of the product. Value is in milliseconds (1000ms = 1 sec)



For the following couple parameters, refer to this picture:



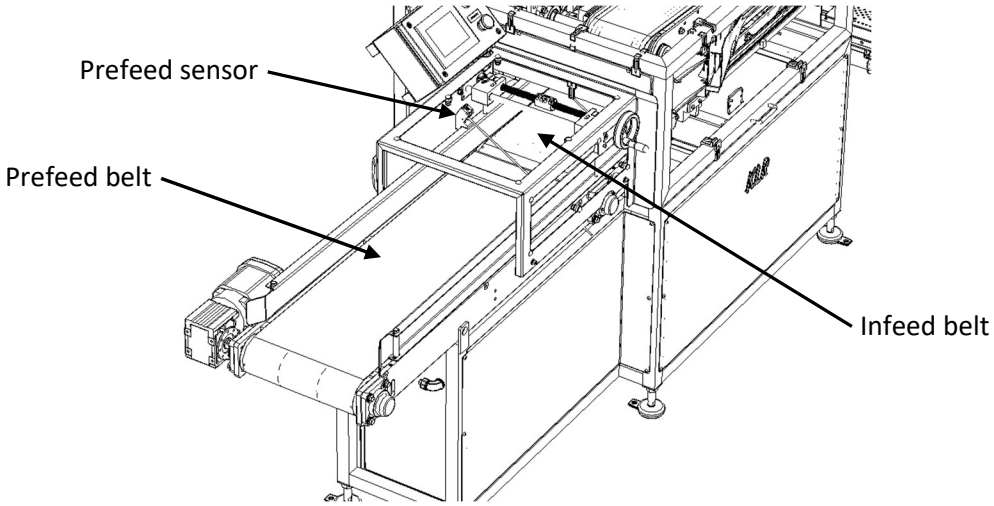
Open scoop (fwd) (see picture above)

Moment where the bottom scoops open according to the retract plate position in between 0 and 390 in the forward motion. Usually set in between 180 and 240 for most bags in the industry.

Delay scoop return (ms) (see picture above)

After the "Time plate stay full (ms)" as ended and the machine is busy reversing to 0 position, the machine is waiting the delay scoop return in milliseconds before closing the bottom scoops back.

For the following couple parameters about the prefeed option, refer to this picture:



Restart prefeed (ms) (option prefeed)

A bit like "restart infeed (ms)": The Restart prefeed in millisecond is the delay the machine waits before sending other product. If no product goes under the prefeed sensor during a cycle of the machine, then no stop occurs.

Stop prefeed delay (ms) (option prefeed)

A bit like "Stop infeed delay (ms)": If the machine is busy with a cycle, there is already a product waiting at the entry and another product goes under the sight of the prefeed sensor, the prefeed conveyor will stop after that specific delay.

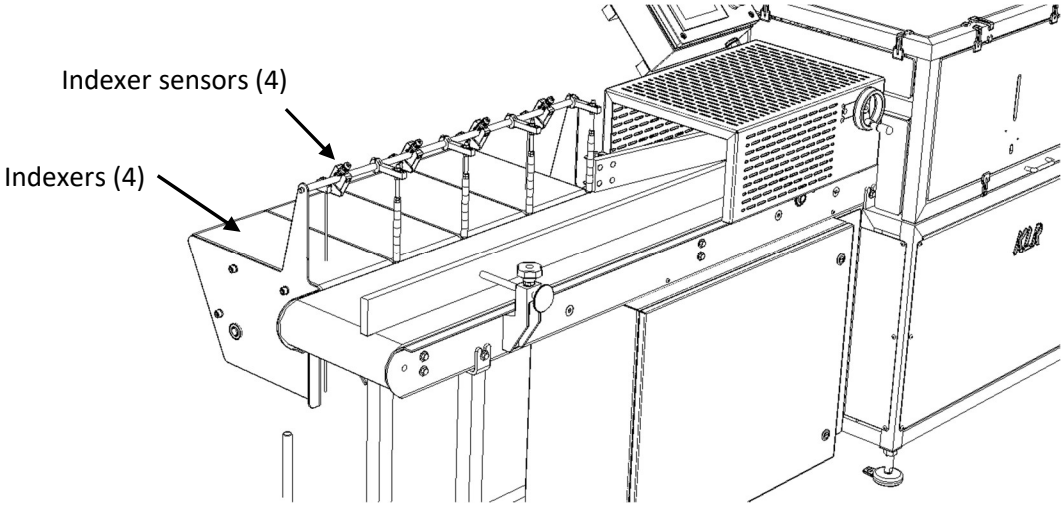
Prefeed Accel (option prefeed)

Acceleration of the prefeed motor.

Prefeed Decel (option prefeed)

Deceleration of the prefeed motor.

For the following couple parameters about the Index option, refer to this picture:



Index load time (option index)

Time each individual index conveyor must run to insert a product onto the next conveyor. If the value is too high, the index may insert two products instead of one.

Index transfer time (ms)

This parameter avoids stopping the index belts too quickly. A product may remain on the indexer is the value is too small.

Index disable time (ms)

To avoids having one of the indexers having no chance to insert his product because the machine is in a sort of pattern. By giving this parameter a value, by example 3000 which is 3 seconds: every 3 seconds, the machine will try to change which one has the priority, so no lane is stuck for ever.

Index check offset

The section in the front of the conveyor that receive the products from the indexer must be empty to be able to receive anything. In the program, it will calculate where the products are physically even if there are no sensors on the receiving conveyor to detect where are the products. Since the products take time to be inserted, you might have and empty slot incoming, but by the time the indexer executes the insertion, the slot might not be empty anymore. Which means that the program must check ahead to avoid products collide each other. By putting minus value, the machine checks before.

Index load offset

With the same approach of the last parameter, you can offset the insertion of product to later if the product is inserting too early.

Index groups (1,2 or 4 conv)

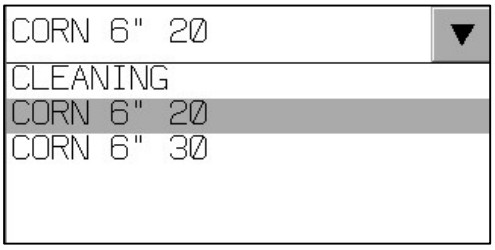
In the event of the product is bigger than the width of the index belts, the indexer uses 2 belts per product when set to 2. When set to 1, the whole indexer will act like a simple wide conveyor.

5.2.2: Recipe manager

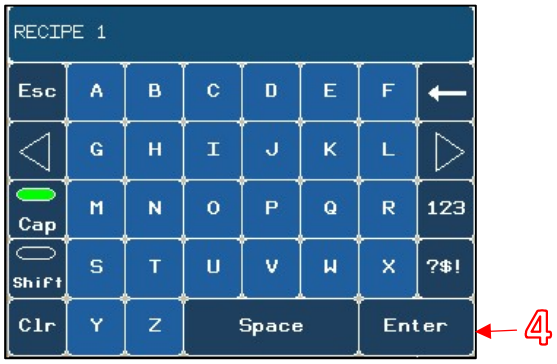
Here is where to copy, rename and create new recipes. This also helps to track changes.

Create a new recipe:

- Select a current recipe (1);



- Create new recipes (2), it will automatically copy the current recipe and ask to rename it;
- Press in the text box (3) and type a different name;



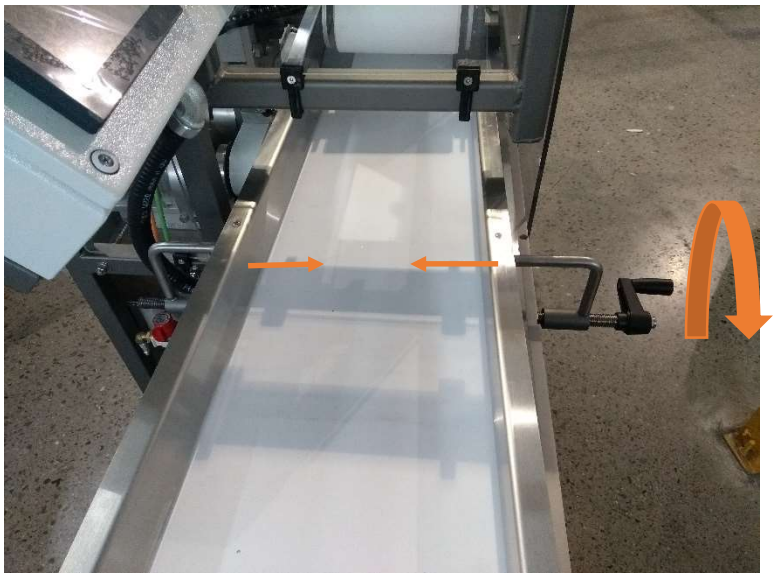
- Enter (4);
- Rename (5);
- Save (6).

To delete a recipe:
Select the recipe to be deleted (1) and press delete (7).

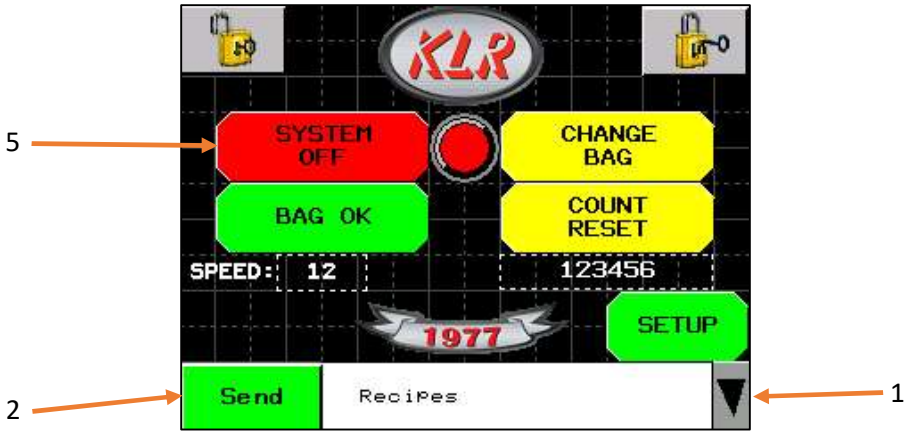
5.3: Product size change

To begin a new production or a production transition to a new product, please refer to the following steps:

- Adjust the guides with the crank handle, for the space between the guides to be slightly wider than the product.



- Select the appropriate recipe on the touch screen (1).
- **IMPORTANT**: Touch "Send" to register the selected recipe (2).
- Ensure that the emergency button is pulled out.
- Push the blue "reset" button.
- Touch "System on" to start the machine (5).



5.4: Load bag

1. Take the wicket bags with both your hands to ensure the pack is tight together.

2. Remove the rubber under the wicket bags pack.

3. Remove the cardboard backer, if necessary, as it may block the bag sensor.

4. Insert the wicket bag rod as shown in the picture, evenly spaced on both sides of the bag table.

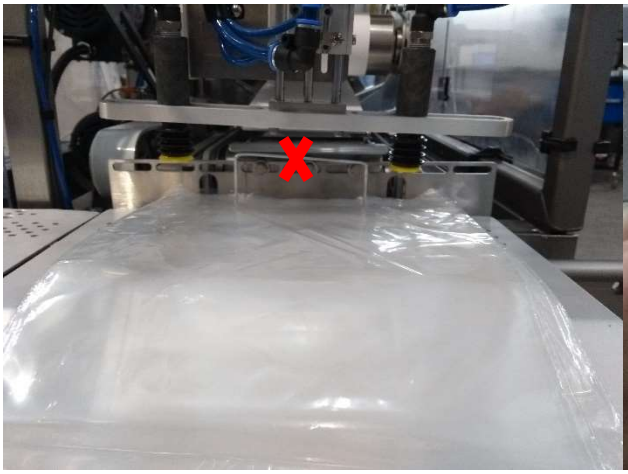
5. Some bag wicket comes with cardboard on top as well. If it is the case, remove it.

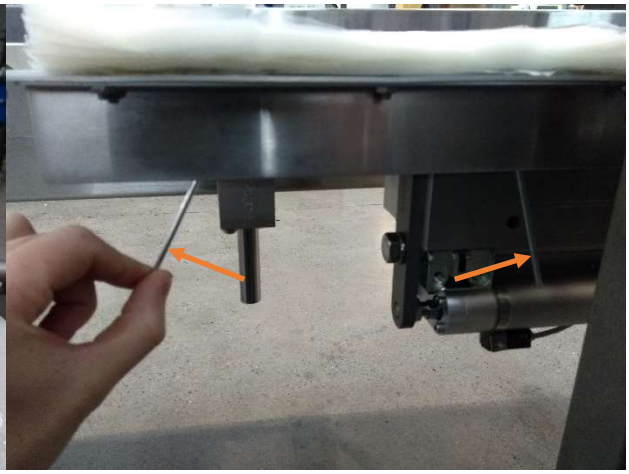
6. Take care to place the bags on the bag table to be sure that the products packed correctly. Ensure corners not folded and bottom of bag is free.

7. If the top bag is damaged, discard it.

8. Make sure the rod (wicket) is well inserted.

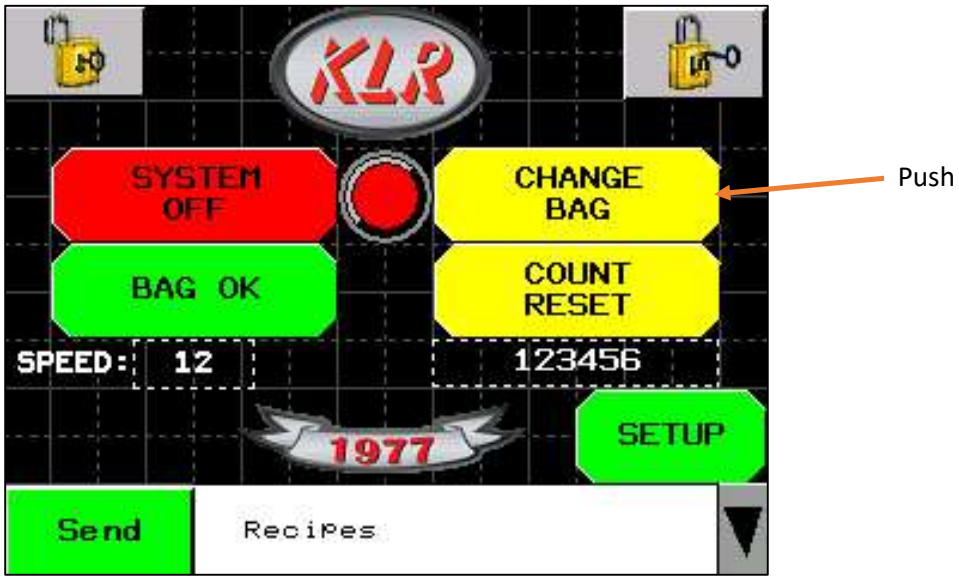
9. **Note**: If you notice that the wicket does not stay in place during the operation, add in your routine: bend the wicket open on each side to prevent several problems. Do not over bend it so it is too hard to pull out by hand.





If the machine is already in operation, and there are still bags on the other table, the bag table will automatically change over when the first side runs out of bags.

If starting up or the bag needs to be changed immediately, press "Change Bag" on the touch screen to initiate a manual change.



5.5: Trouble shooting/Jam

Here are some troubles that may happen during the normal operation of the machine:

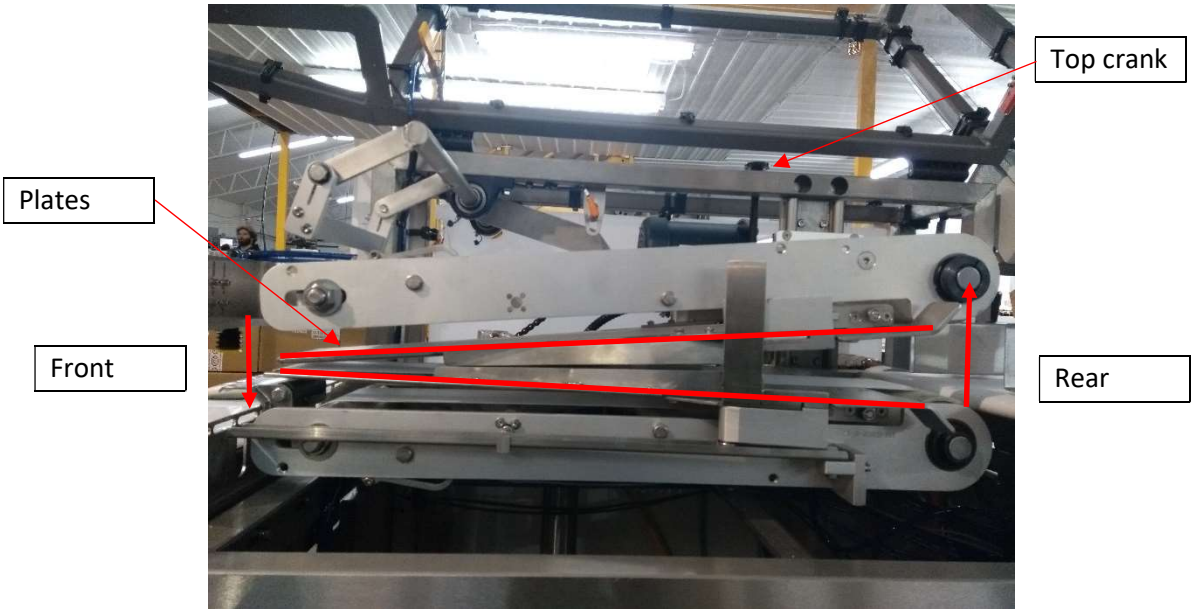
Situations	Causes	Solutions
The plates have moved forward, but the product remain stuck in the machine, and then the machine is trying again but not successfully.	10. Stacks of products are spread out and get stuck on the edges of the scoops. 11. Two stacks have entered the machine at the same time. 12. Stacks of the product is not the expected high. 13. The guide place at the entry is not set up in the middle and the products are stuck on the edges of the scoops.	14. Press the emergency button. 15. Open the main door. 16. Lift the top plate. 17. Remove the product and the top bag if it is damaged. 18. Verify if the setup is right. 19. Close the door, pull the emergency and reset the machine. It may take a couple seconds to do the homing sequence.
In normal operation, the product is getting on the conveyor not bagged or not well packaged.	• Stacks of bags are not in the center of the bag table. • Bags were not well placed onto the bag table (for example: one corner is flipped inside).	• Make sure the unused bag table is filled correctly. • Press "change bag" on the screen. • Replace the bag while the machine is operating (refer to reload wicket bags section if necessary).

5.6: Top crank adjustment

Most of the time, when the KLR technician has adjusted the top crank according to the customer products. There is NO need to touch it anymore, since it adjusted to the thickest product if there is many. There is an exception when the customer has really thin and thick stack of products and he is still using the same bagger (this covered in the training session).

In case, the user wants to add a thicker product that he already has. It is important to know this following fact:

As a lever, the more the top crank used to raise the rear part, the more the front plates get close each other:



IMPORTANT: at HOME position (cover closed and reset button pressed), the front plates must have 1/16 of an inch clearance from each other at the minimum.

Please contact KLR systems for further assistance with this feature (see name and manufacturer contact).

6.0: MAINTENANCE

6.1: Preventive maintenance schedule

Due to the complexity of our machine, these procedures are subject to change and should be adequately adjusted in extreme conditions:

PREVENTIVE MAINTENANCE SCHEDULE			
Location	**Procedure**	**Time interval**	**Remarks**
Infeed conveyor	1 greasing port	3 months	Change greasing ports when leaking. Verify if the protection cap is still there.
Motor retracts	1 greasing port	3 months	Change greasing ports when leaking.
Bearing up and down retract	2 greasing ports	3 months	Change greasing ports when leaking.
Bearing forward and reverse of retract plates	2 greasing ports	3 months	Change greasing ports when leaking.
Up/down shaft	Grease lightly with a brush	Every cleaning	None
PREVENTIVE TROUBLE FINDING			
Retract plates	Test the up/down arms. Raise it by hand up and let it go. Check if there is restriction.	3 months	If there is restriction, then it might be'' the up/down'' the shaft that has been dry for too long and is worn out.
	Move by hand the plate forward. Check if there is restriction.		Don’t forget that it will always be a little difficult by hand, note any changes over time.
	Verify if the servo belt (forward and reverse) remains in the center of the aluminum roller and the sprocket		Both axes must be parallel.
Cleaning	Clean the dust with an air blower and sanitize all the surfaces that are in contact with food.	Daily	None

6.2: Maintenance notice

Careful: Here is what to do to avoid damage the machine

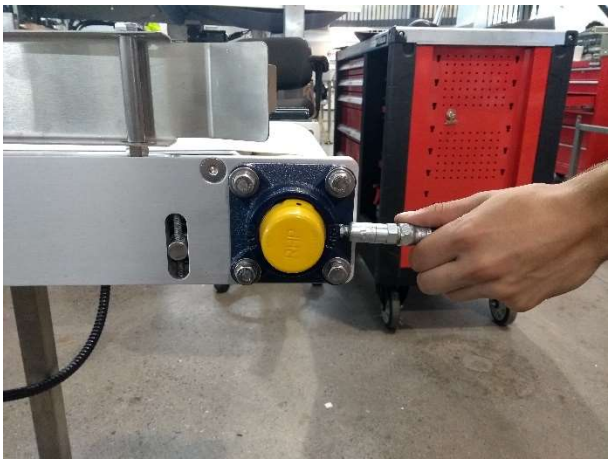
When the air supply is OFF and it is required in a maintenance to move manually the bag table in order to access something. When the maintenance is over, DO NOT put the pressure back if the machine is in ready state. ALWAYS push the emergency button before putting the pressure on the machine.

6.3: Maintenance steps

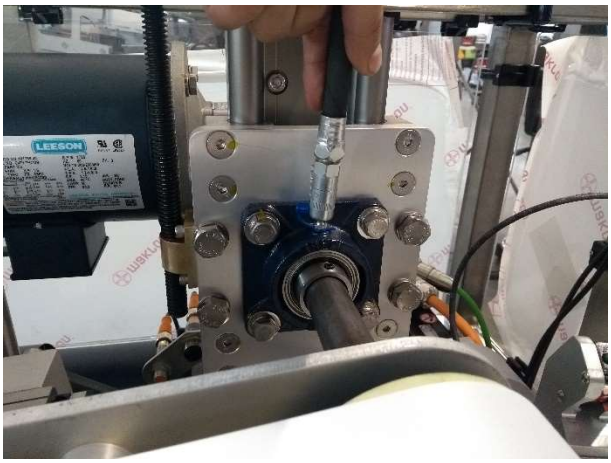
⚠	➢ When the air supply is OFF and it is required to move manually the bag table in order to access something. ALWAYS put back the bag table in position before turning ON the air again.
⚠	➢ When the air pressure is turned ON, the bag table may move promptly depending of what position is the bag table valve.

Greasing

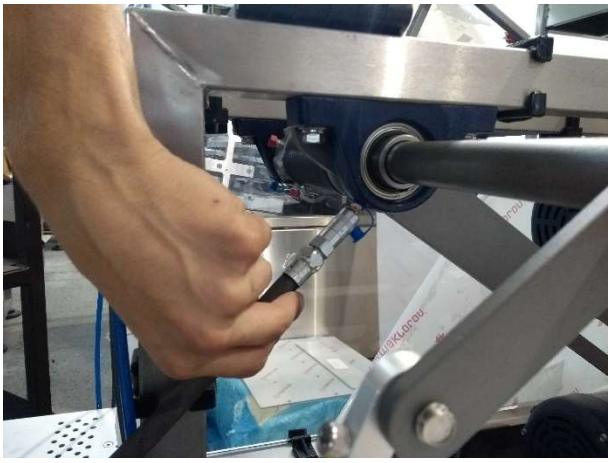
Grease the blue bearing, one push each maintenance is enough;



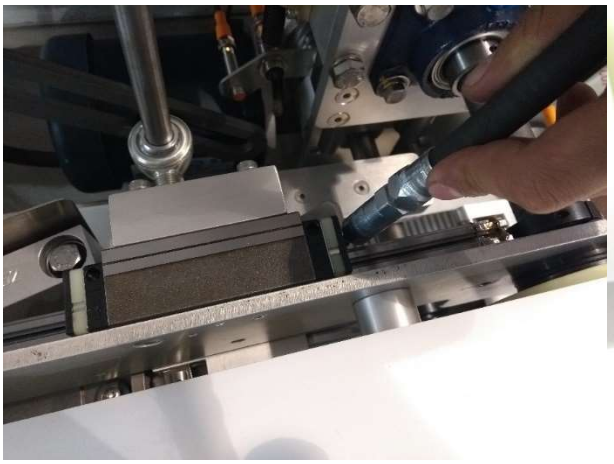
Grease the motor of the retract;

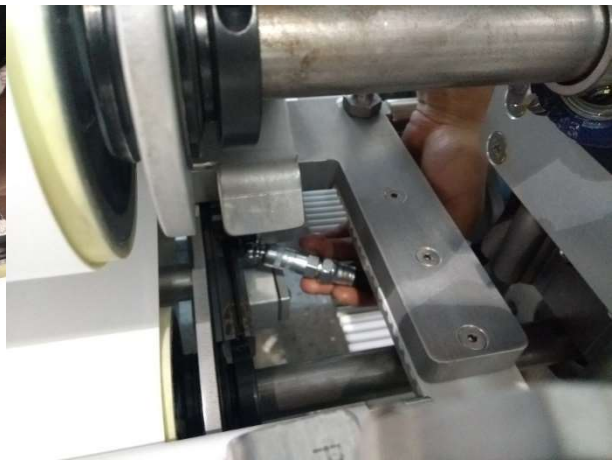


Grease both top bearings;



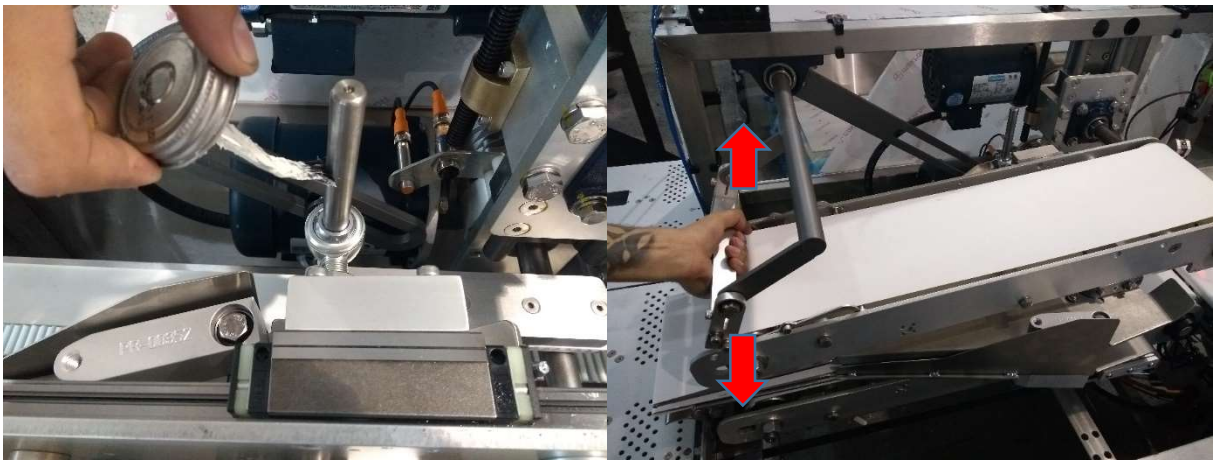
Grease both linear bearings;





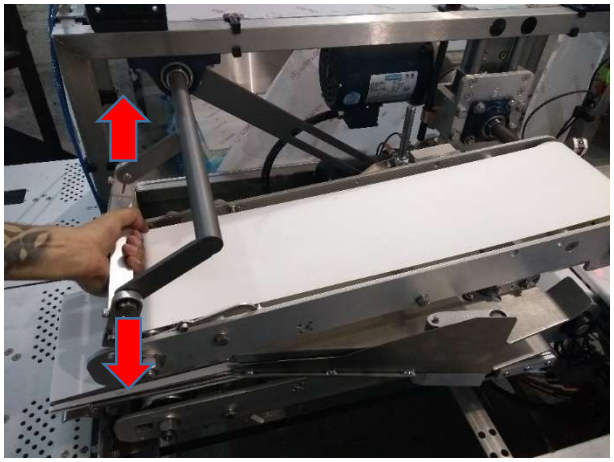
Grease the up/down the shaft with food grade grease. To do so, use a brush or a nitrile glove. Raise the plate by hand and grease underneath.

In use, this part is likely to be covered by dust. Please, keep it clean and lubricated. It will help greatly the machine in overall.



6.4: Trouble shooting

1. Make sure the movement is easy and without restriction:



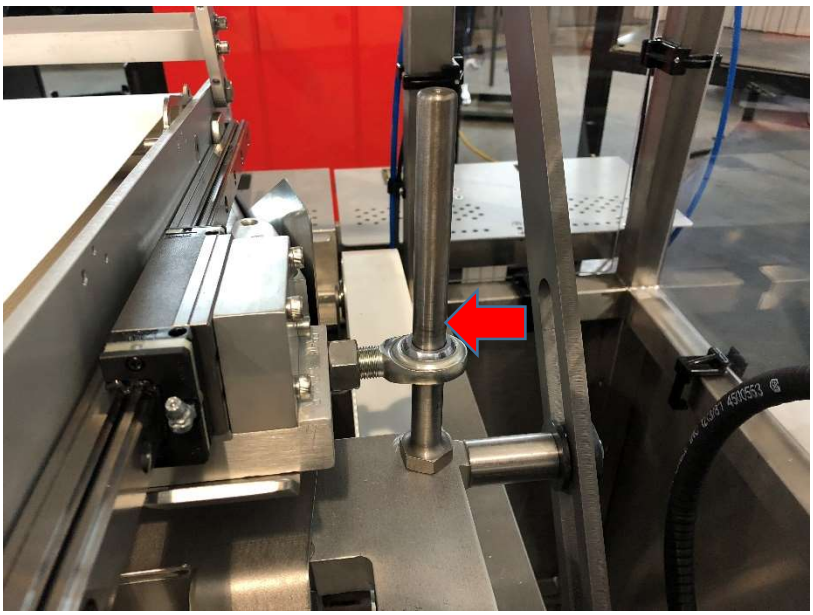
2. If it is not the case, you might want to check the end bearings if they need to be changed:

Part number (refer to spare part list): **PM-01520**

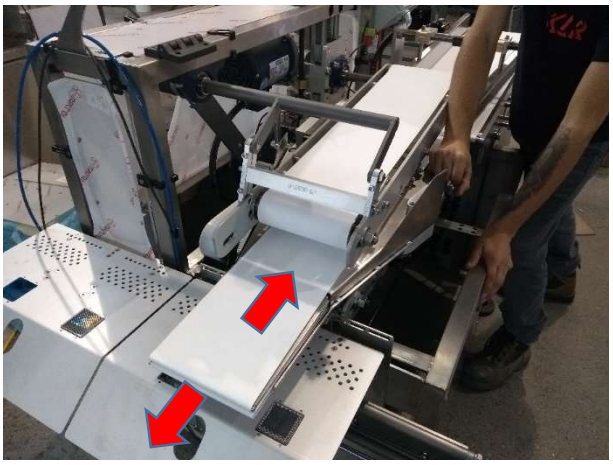
3. If the previous step was not concluding, you might want to check ''the up/down the shaft''. In normal case, when you raise the plates, the shaft should not bind side to side by the rod end. It should move freely.

Part number (refer to the spare part list): **PR-03142-A**

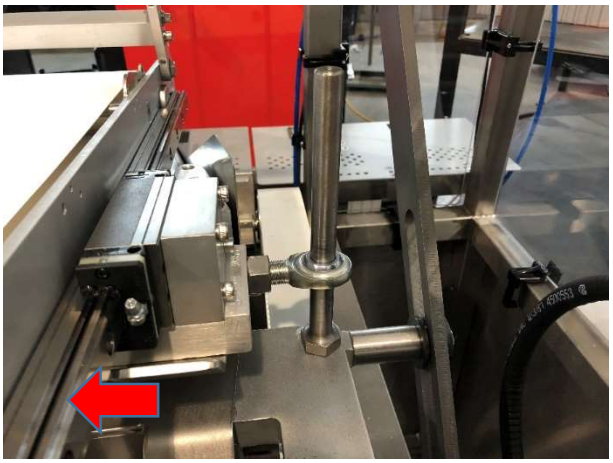
⚠ Design modification. See **annexes**.



4. Verify by hand, if you can manipulate the plates forward and reverse easily. Remember that you force against a couple of mechanism like belt tension and gearbox. Try to notice any change each time you are performing the maintenance.



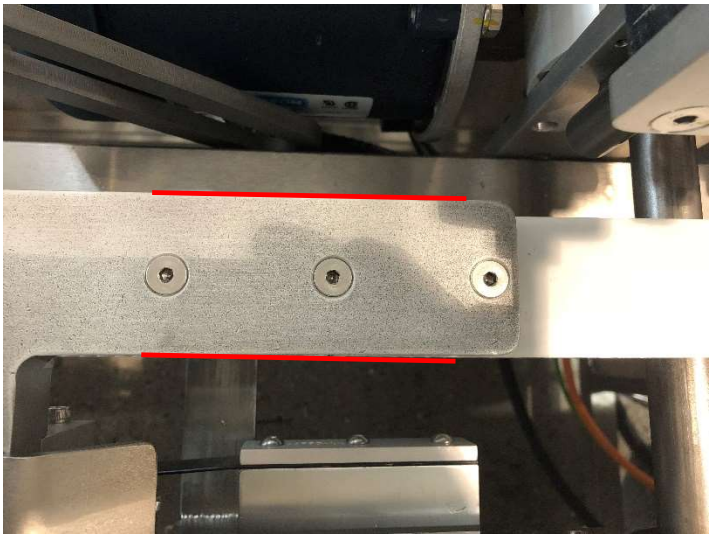
5. Make sure both the rails are clean and not damage by tool



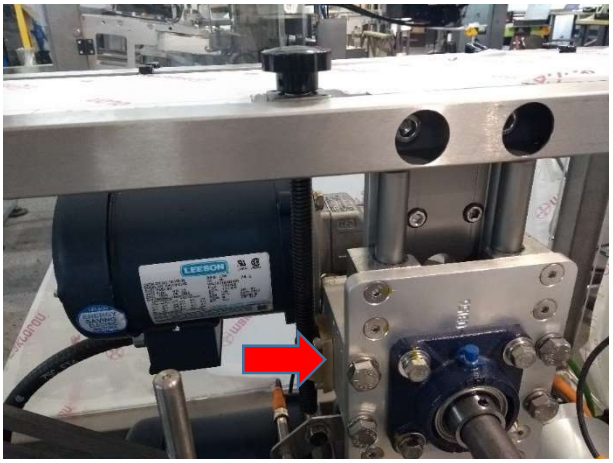
6. Check the forward/reverse belt is always in the middle of the aluminum roller. If not, both axis (aluminum roller and the sprocket) are not parallel.

7. The belt must be in the middle of the sprocket;

8. A well-installed belt should not go over each side;



9. If you do that use the up and down adjustment (mostly for the first set up, then not used at all), check if it is easy to raise. The piece that is most likely to wear is the brass parts. If needed, see the part list;



6.5: Cleaning

Cleaning is an important part of a maintenance program. We recommend cleaning the following areas every working day. The machine must be stopped when cleaning.

Cleaning interior

- Open the doors to get access;
- Use air blowers to remove dust;
- Sanitize the retract belts, both the upper and lower belts;
- Clean the retract scoop guards;
- Clean and grease the up/down the shaft.

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;

Note: Cleaning is a good time to do a visual inspection of the belts. Any cracks or wear can easily be seen during cleaning. Worn belts should be replaced before they can fail. See spare parts list in this document.

7.0: 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 correct list. If you need assistance, see contact information.

Suggested spare part list per machine for KLR.5050-16

Numbers	Part numbers	Quantity	Descriptions
1	PB-00152-7	2	BAGGER PITA RETRACTABLE BELT 7'' WIDTH
2	P02-00133	4	BEARING
3	PM-01418	1	MOTOR COUPLING
4	PR-02301-.625	1	HUB FOR SERVO MOTOR
5	PM-01419	1	CROSS COUPLING FOR SERVO MOTORS
6	PM-00114	1	LINEAR BEARING
7	PP-00535	1	VALVE PURGE
8	PP-00521	1	VALVE
9	PE-00136A	1	MAGNETIC SWITCH CODE
10	PE-01340	1	REFLECTOR
11	PE-00900	1	PHOTOCELL NPN DIFFU BACKGROUND SUPPRESS
12	PP-00512	1	AUTO SWITCH BAND MOUNT, LED, W/3MTR LEAD
13	PE-00507	1	CABLE CONNECTOR M12 STRAIGHT
14	PE-00134	1	REFLECTIVE PHOTOCELL
15	PE-00141-NC	1	PHOTOTCELL
16	PE-00902	1	REFLECTIVE SENSOR FOR CLEAR PRODUCTS
17	PR-02103	1	BRACKET TO LEXAN COVER
18	PP-00654-B	1	VACUUM FILTER 3/8 G MIN
19	PP-00655	1	VENTURI SIMPLE 3.0MM BUSE
20	PP-00661	1	PNEUMATIC CYLINDER
21	P02-00095	4	BEARING
22	PM-00191	1	LINEAR BEARING
23	PM-00310MR	1	LINEAR BEARING
24	PR-03142-A	1	ADJUSTABLE HEIGHT GUIDE
25	PP-00651	10	SUCTION CUP
26	PR-04574	2	CONNECTOR FOR SUCTION CUP
27	PR-03183	1	SUCTION CUP SUPPORT
28	PP-00551	1	CYLINDER
29	PR-03195	1	IDLER BELT 1''
30	PP-00501	1	MANOMETER
31	PR-03519	1	AIR CYLINDER BRACKET
32	PE-00911	6	WIRE CABLE

8.0: CHECK LIST

START UP CHECK LIST FOR FLAT BREAD BAGGER KLR.5050-16

SERIAL NUMBER: _____ CUSTOMER: _____

Mechanical		
Where	**Tasks**	**Check**
Bag table	Ensure the scoop plate has ¼ inch clearance to the Nylatron roller	☐N/A ☐
	The bag table stopper is centred with the retract plates	☐N/A ☐
	The bag stopper is parallel to the bag tables. Pull tests on each bag table to ensure correct grip tension on the bag stack.	☐N/A ☐
	Ensure correct bag stopper for fitted retract plate width. (For example: plates 5 inches must be with 6 inches stopper.)	☐N/A ☐
Up/down mechanism	Adjust the spring tension or ensure servo weight is set correctly to the servo stroke. (spring option)	☐N/A ☐
	Ensure linear bearing grease ports are facing inside the machine	☐N/A ☐
	Verify that the middle-linear bearing rails are parallel to the plastic support (spring option)	☐N/A ☐
	Check that the pillow block bearings on top shafts are moved completely in front	☐N/A ☐
	Lower the top crank to be 2 inches and then in front of the plates, it should be 1/16 of an inch in between plates	☐N/A ☐
	Grease the up/down the shaft	☐N/A ☐
	Check there is NO flex on the up/down the shaft when you raise the retract plate by hand.	☐N/A ☐
Retract mechanism	Check the tension and the tracking of the retract belts	☐N/A ☐
	Ensure that the retract can be moved by hand	☐N/A ☐
	Check to be sure the toothed belt is tracked and not overtight	☐N/A ☐
Vacuum system	Adjust the vacuum in order the catch one single bag	☐N/A ☐
Motors	Check the rotation of the motors	☐N/A ☐
Servo motors	Check the rotation of the servo	☐N/A ☐
Infeed conveyor	Verify if the guides are centered and ease of crank adjustment	☐N/A ☐
	Adjust the tension of the belt and the tracking. Don't overtighten	☐N/A ☐
Scoop mechanism	If antenna option is selected, ensure the antenna, tracks and cylinders are installed	☐N/A ☐
	Ensure sure the flat head screw attaching the antenna doesn't touch the interior of the tracks in movement	☐N/A ☐
	Make sure a drop of lock tight is applied on the threaded part of each scoops air cylinders	☐N/A ☐

Pneumatic		
Where	**Tasks**	**Check**
Air shut off valve	Set air pressure up to 80 psi	☐N/A ☐
Machine	Verify every line for leaks	☐N/A ☐
Manifold	Check each output to ensure the manifold is working correctly and there are no leaks in every single valve state	☐N/A ☐
Vacuum system	Check the speed of the vacuum lifter	☐N/A ☐
	When the machine is ready, check that the vacuum lifter is on down position. Press the E-Stop, the vacuum lifter should not move.	☐N/A ☐
Bag table mechanism	Check the speed of the bag table cylinder	☐N/A ☐
	Check that the bag table cylinder is in up position at the start	☐N/A ☐
	Check the speed left/right of the bag tables cylinder and check the air bumpers if it stops the table properly	☐N/A ☐
Blower	Check if the blower is well oriented and the bags are well inflated	☐N/A ☐

Electric		
Where	**Tasks**	**Check**
Machine	Make sure the cables close to access door won't be damaged overtime	☐N/A ☐
PLC	Check all inputs if it reaches the right contact on the PLC and in the HMI tests page	☐N/A ☐
HMI	Test the rotation of the servo motor	☐N/A ☐
Tests page output on HMI	Toggle each output if this reaches the right valve	☐N/A ☐
Bag tables	Put the bag sensor light ON and ensure it can see a single bag on each table	☐N/A ☐
Emergency	Test each safety feature	☐N/A ☐
Electrical box	Clean electrical box	☐N/A ☐

DATE: _____ **TECHNICIAN SIGNATURE: _____**

9.0: Maintenance and repairs by specialized technicians from KLR Systems Inc.

9.1: Contact information

KLR SYSTEMS INC.

944 rue des Hérons

SAINT-PIE, QUEBEC, CANADA

J0H 1W0

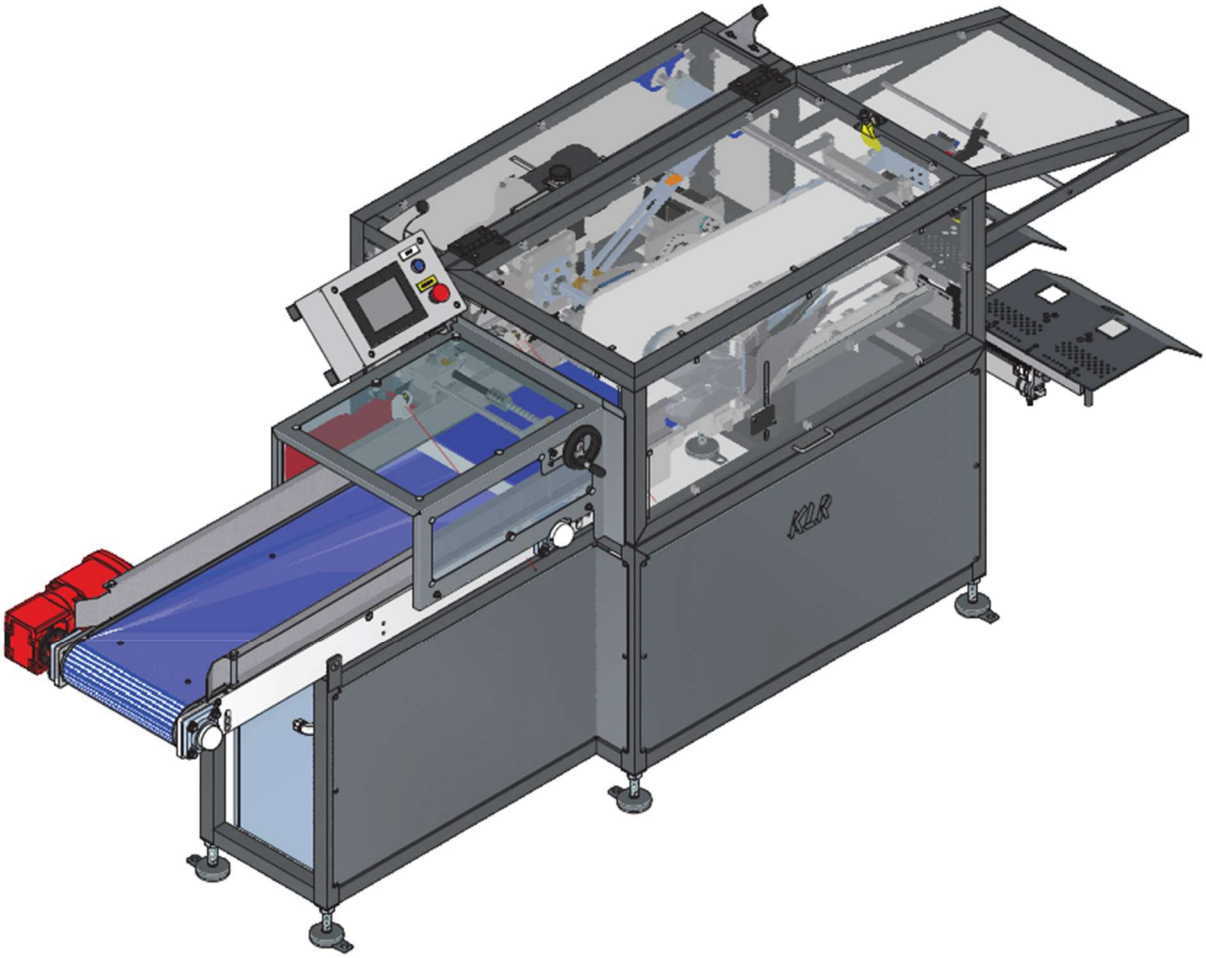
Info@klrsystems.com

www.klrsystems.com

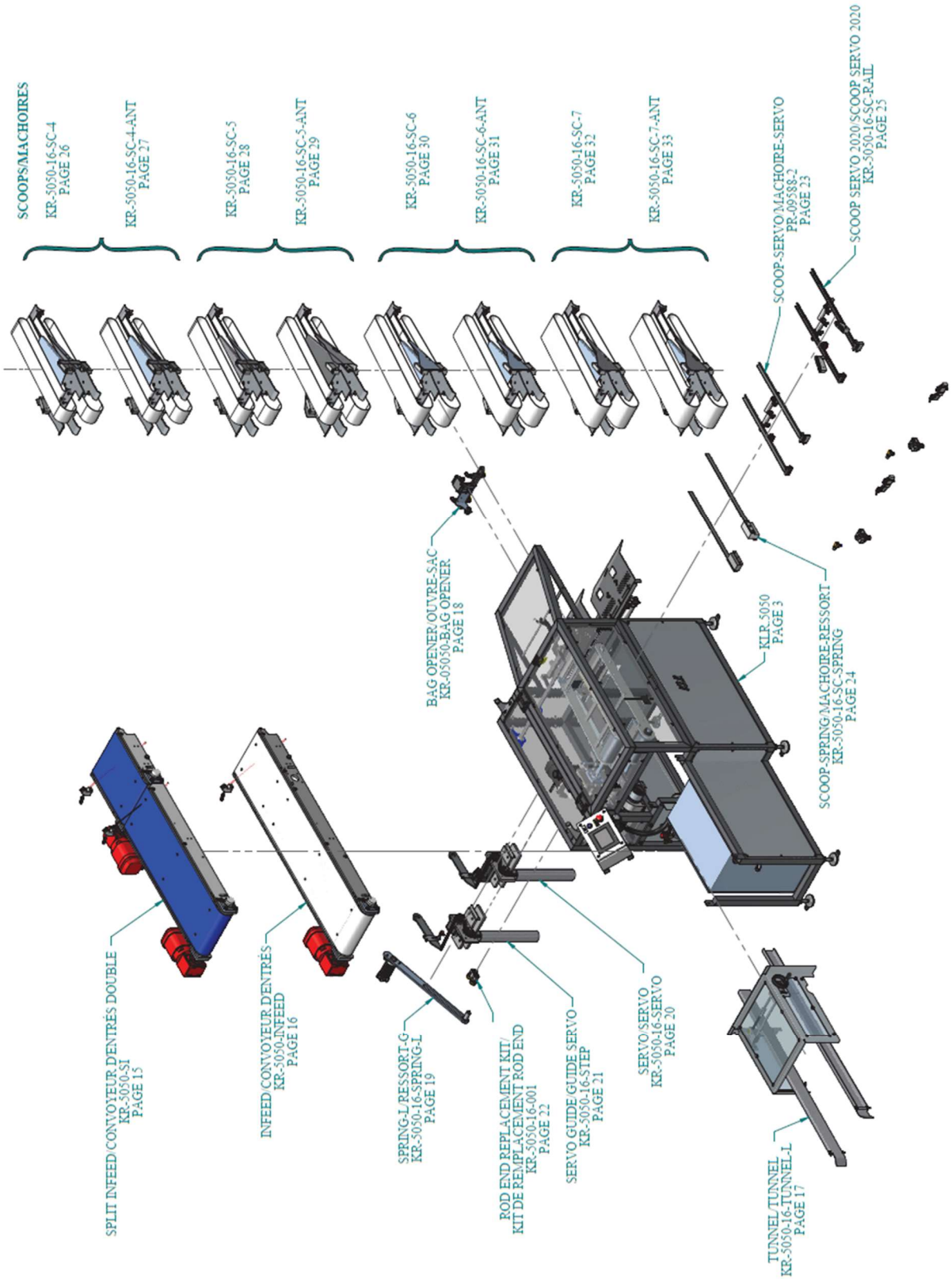
10.0: DECOMMISSIONING OF THE MACHINE

It is advisable to schedule a visit from KLR to reinstall the equipment after an extended decommissioning or relocation.
Destruction, recycling, scrapping

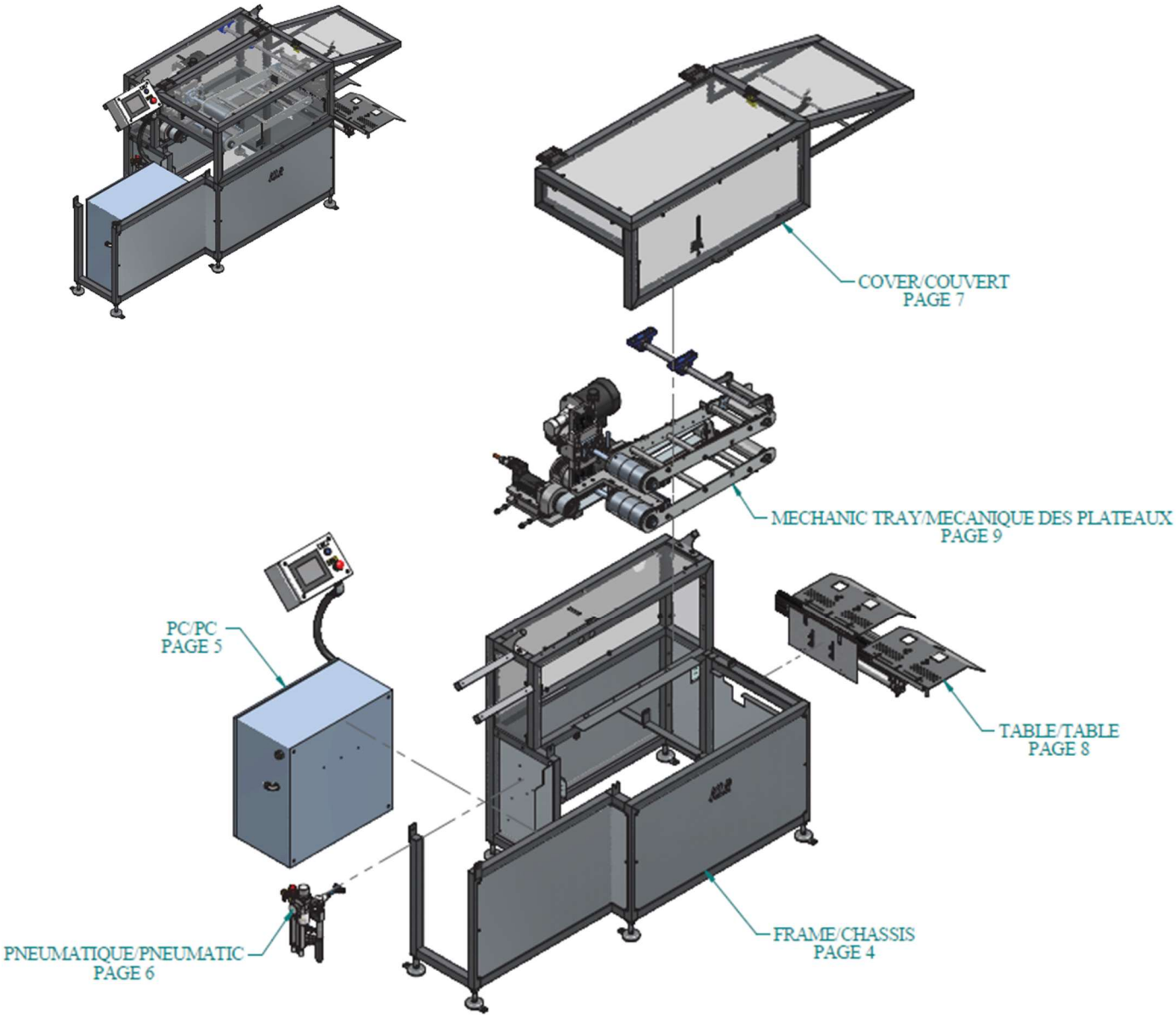
11.0: KLR.5050-16 (EXPLODED VIEWS)



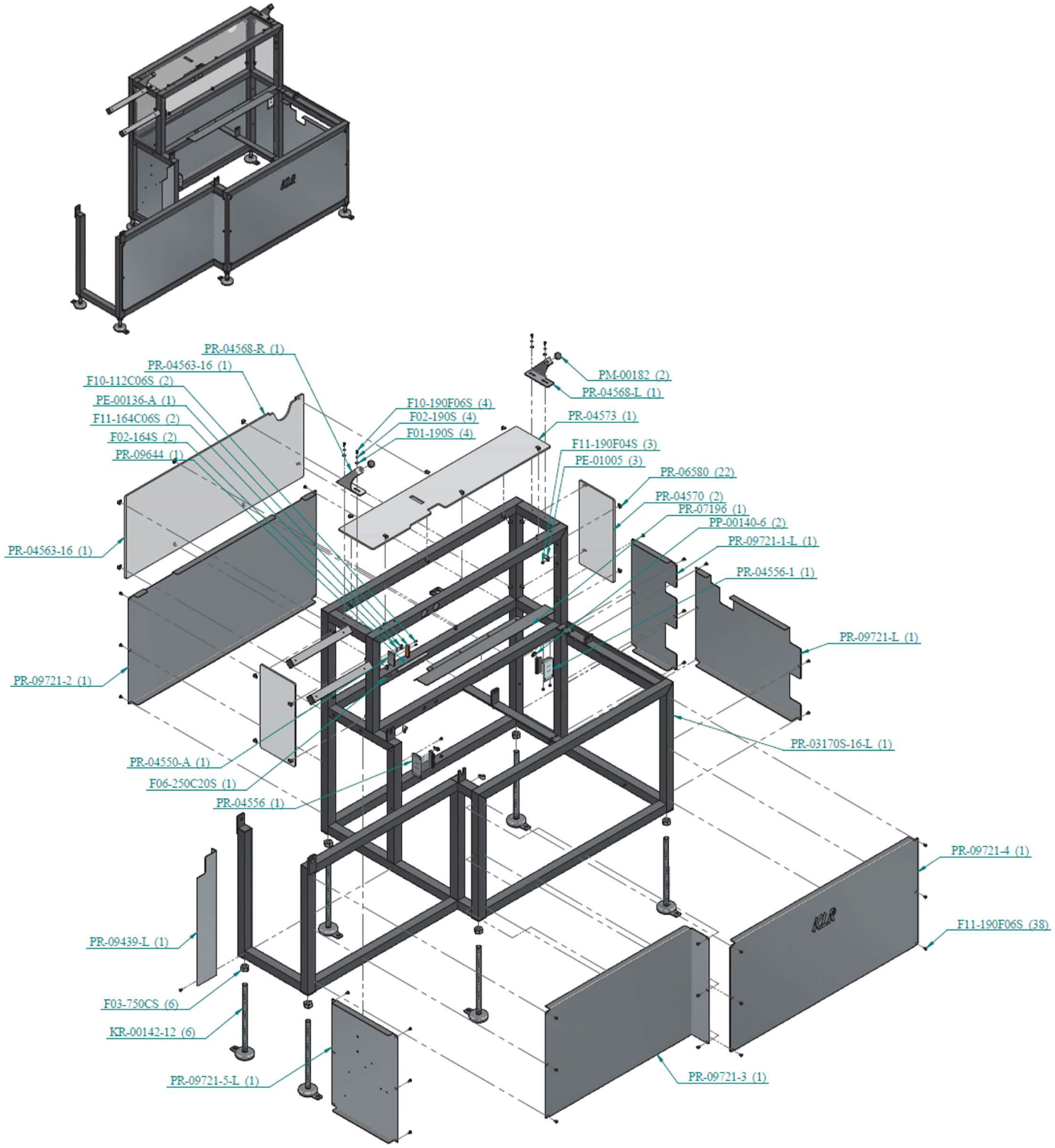
11.1: Options available



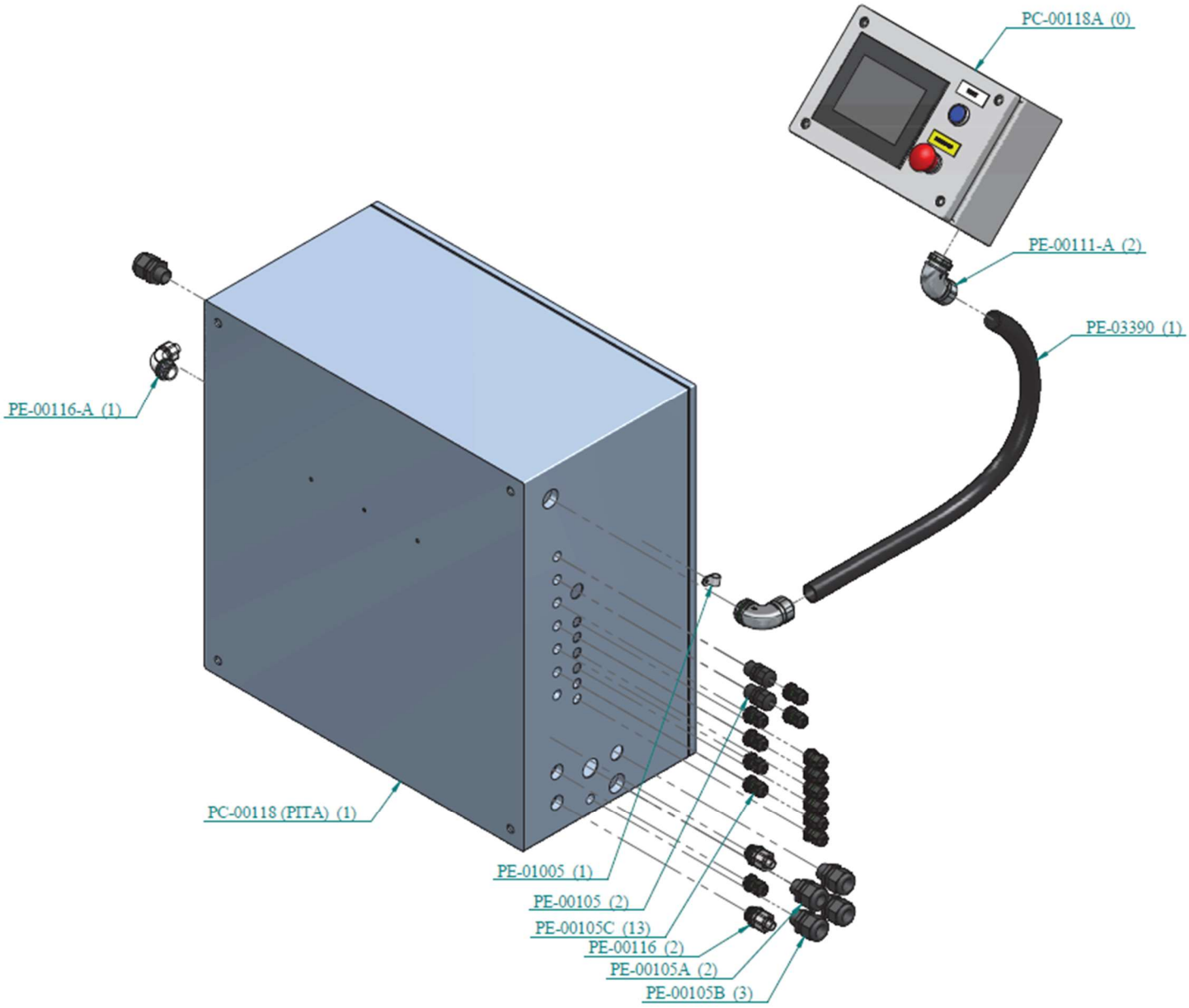
11.2: Standard components



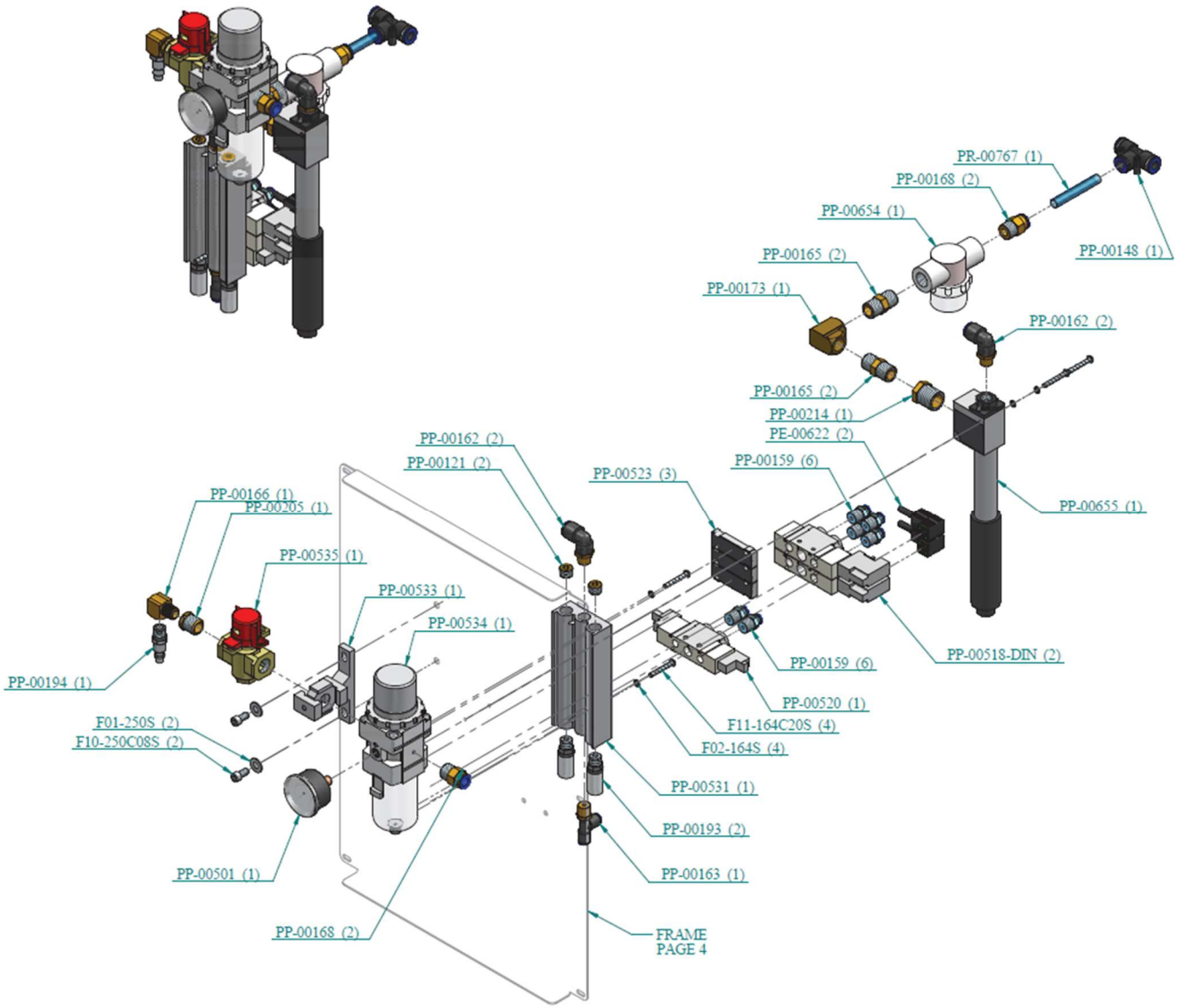
11.3: Frame


PR-04568-R (1)
PR-04563-16 (1)
F10-112C06S (2)
PE-00136-A (1)
F11-164C06S (2)
F02-164S (2)
PR-09644 (1)
PR-04563-16 (1)
PR-09721-2 (1)
PR-04550-A (1)
F06-250C20S (1)
PR-04556 (1)
PR-09439-L (1)
F03-750CS (6)
KR-00142-12 (6)
PR-09721-5-L (1)
F10-190F06S (4)
F02-190S (4)
F01-190S (4)
PM-00182 (2)
PR-04568-L (1)
PR-04573 (1)
F11-190F04S (3)
PE-01005 (3)
PR-06580 (22)
PR-04570 (2)
PR-07196 (1)
PP-00140-6 (2)
PR-09721-1-L (1)
PR-04556-1 (1)
PR-09721-L (1)
PR-03170S-16-L (1)
PR-09721-4 (1)
F11-190F06S (38)
PR-09721-3 (1)

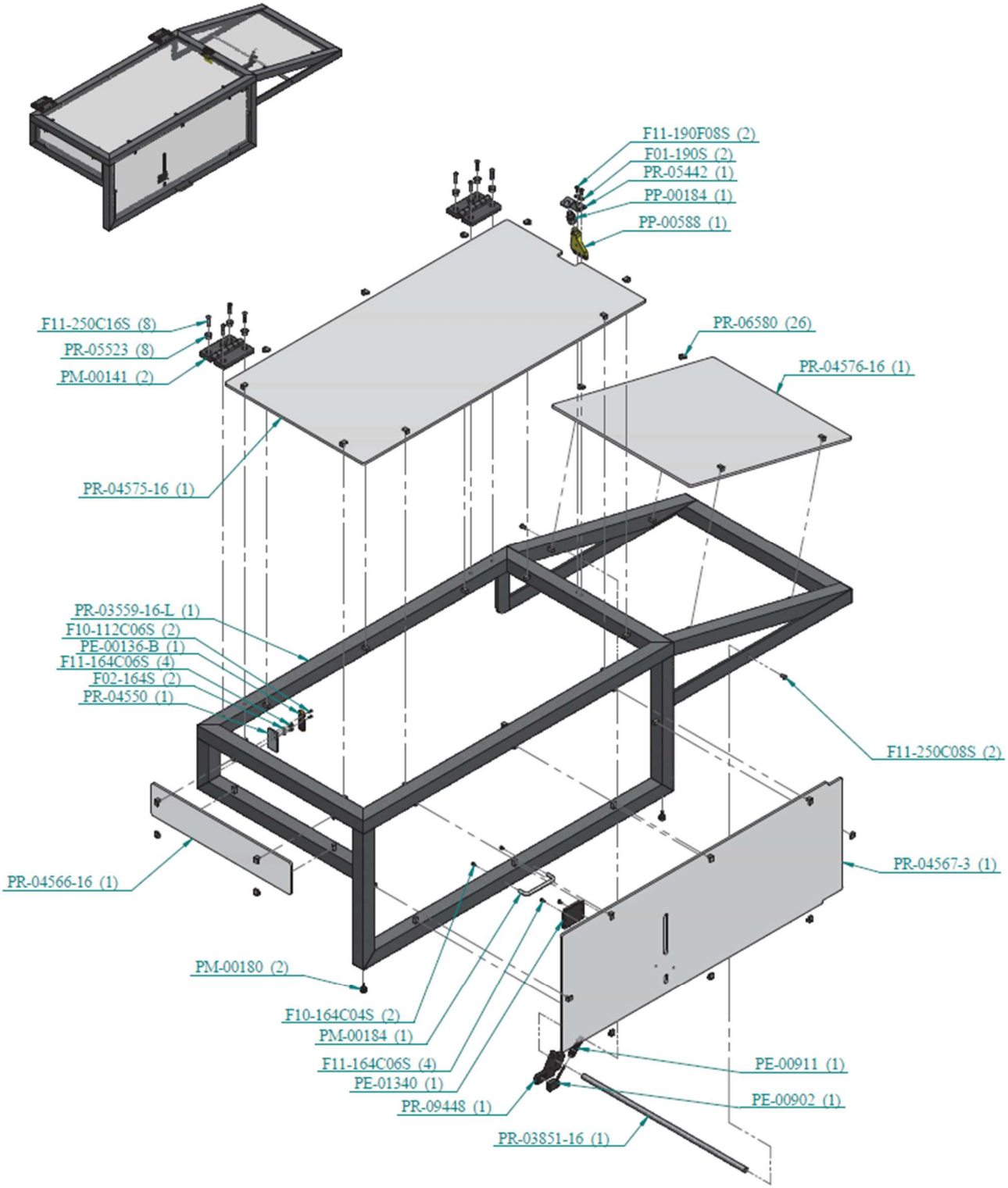
11.4: Panel control



11.5: Air system



11.6: Cover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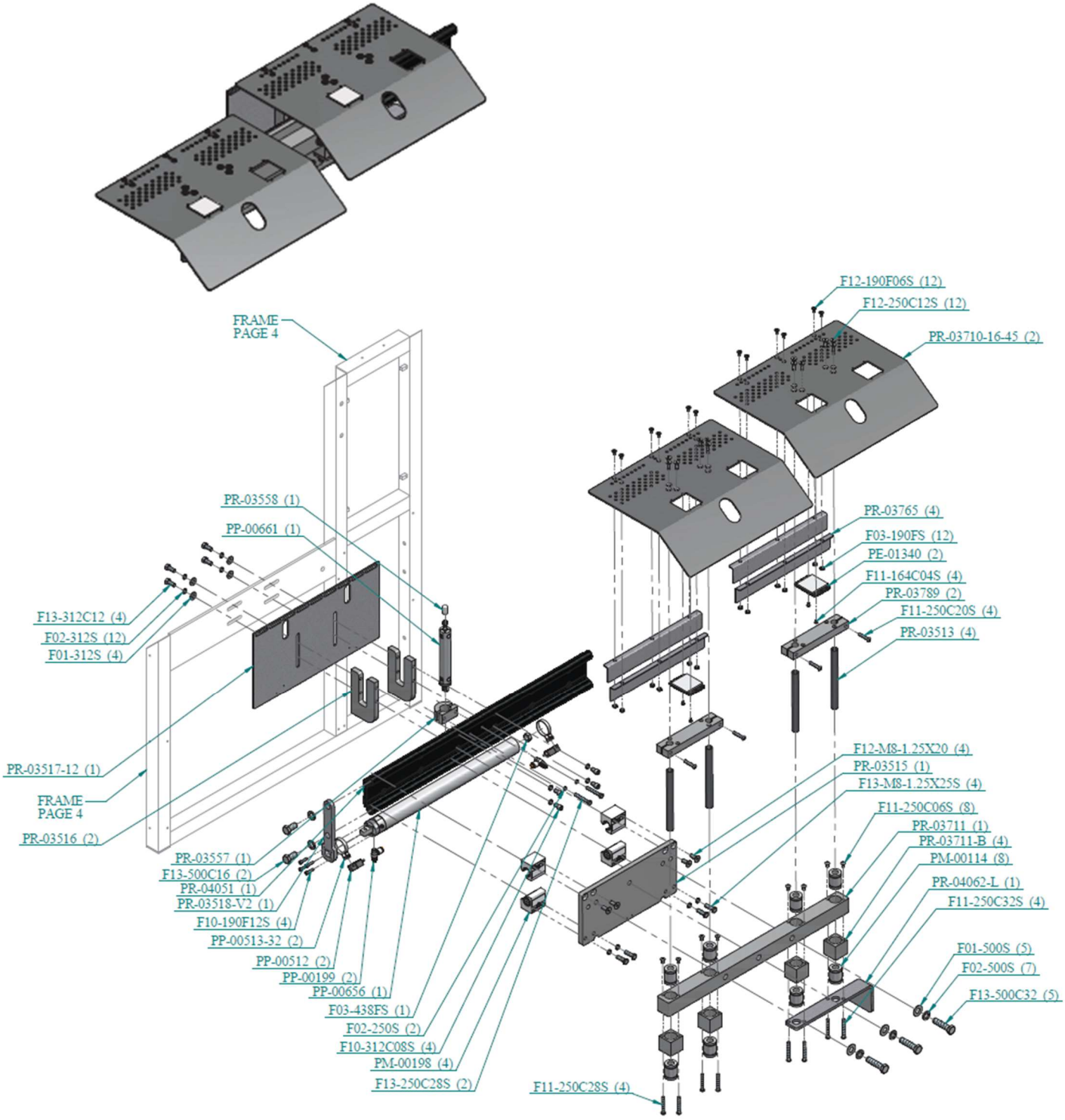
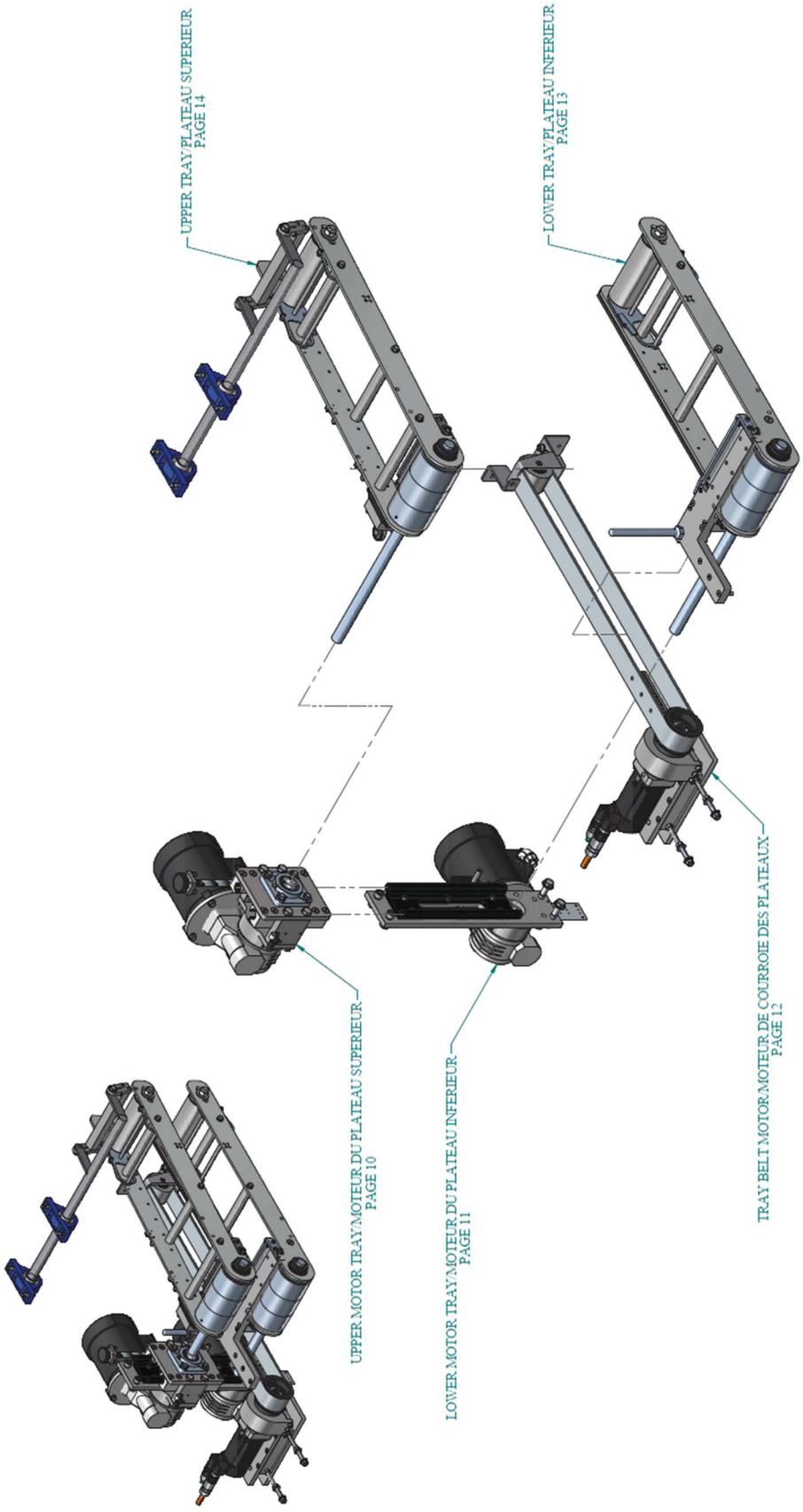
F01-190S (2)
PR-05442 (1)
PP-00184 (1)
PP-00588 (1)
F11-250C16S (8)
PR-05523 (8)
PM-00141 (2)
PR-06580 (26)
PR-04576-16 (1)
PR-04575-16 (1)
PR-03559-16-L (1)
F10-112C06S (2)
PE-00136-B (1)
F11-164C06S (4)
F02-164S (2)
PR-04550 (1)
F11-250C08S (2)
PR-04567-3 (1)
PR-04566-16 (1)
PM-00180 (2)
F10-164C04S (2)
PM-00184 (1)
F11-164C06S (4)
PE-01340 (1)
PR-09448 (1)
PE-00911 (1)
PE-00902 (1)
PR-03851-16 (1)

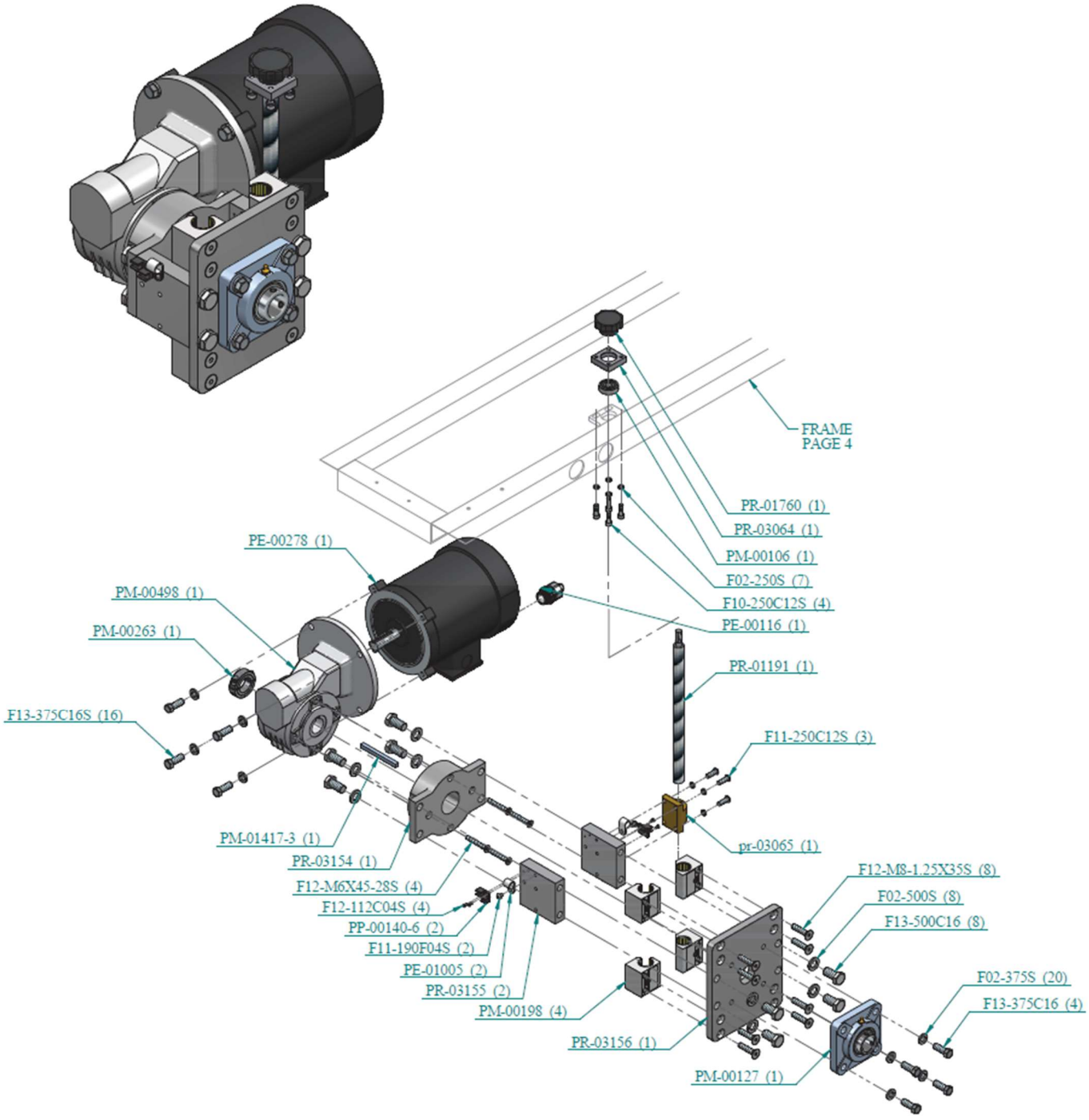
11.7: Bag tables



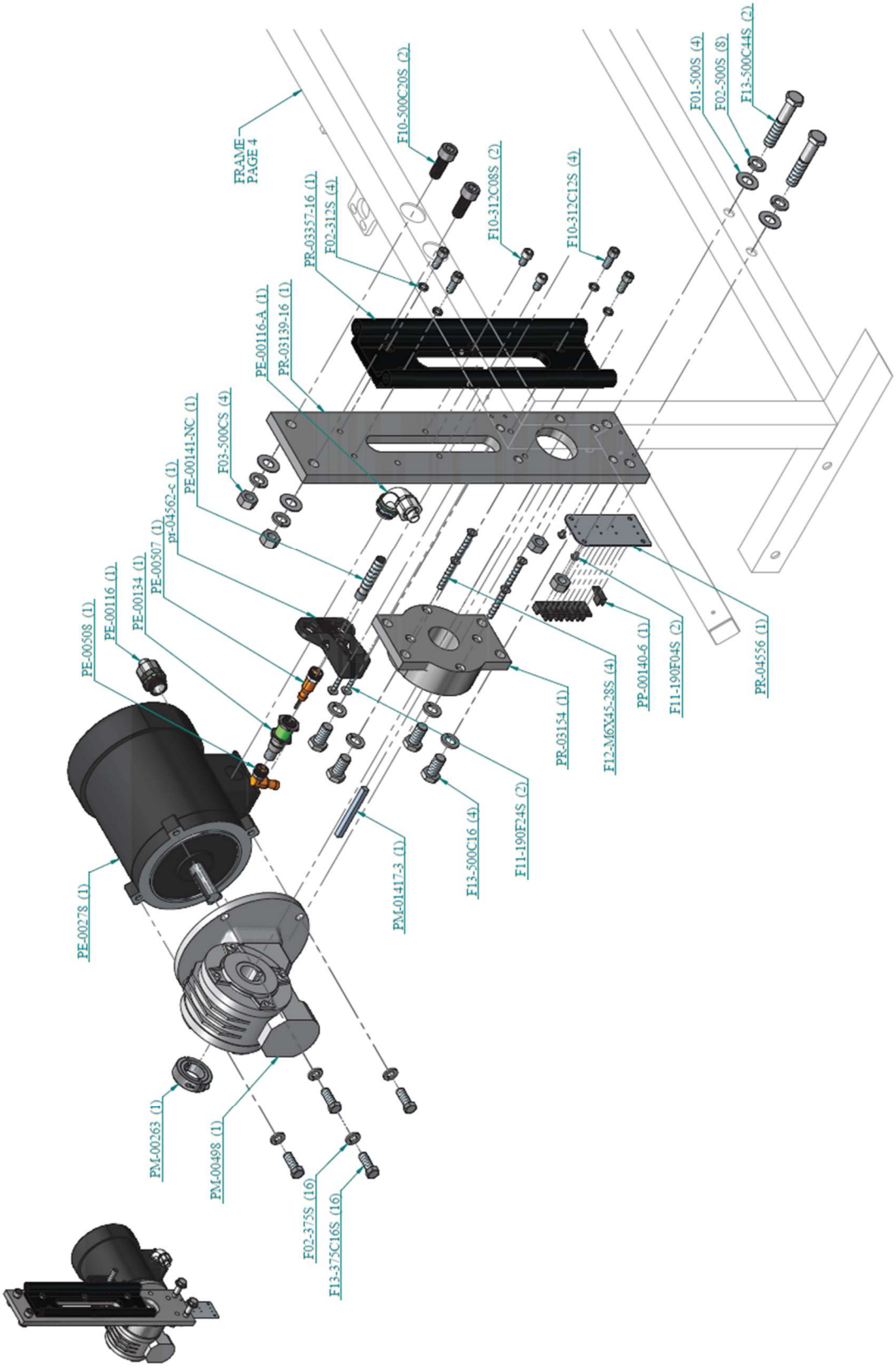
11.8: Retract mechanic



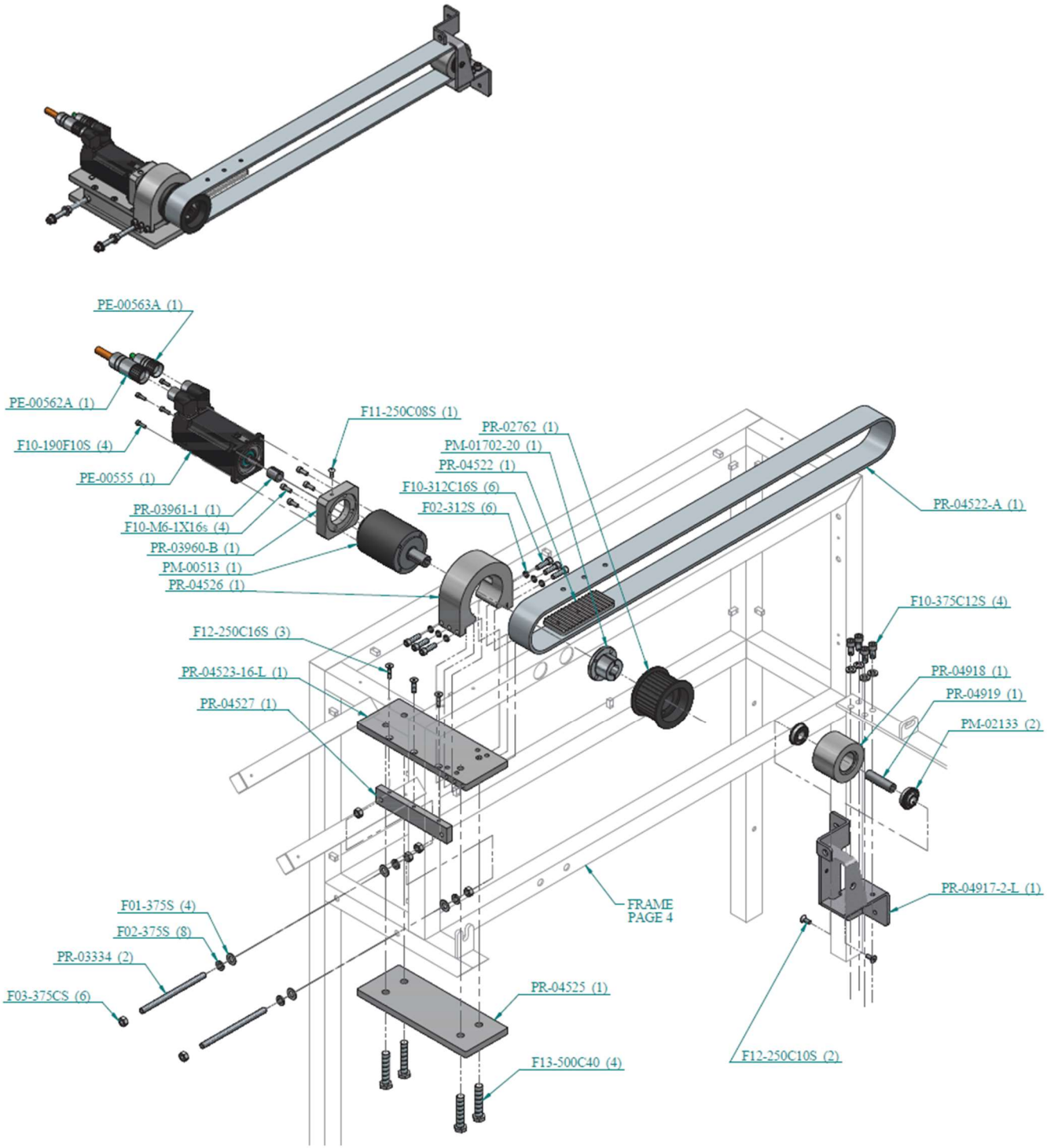
11.9: Upper retract motor



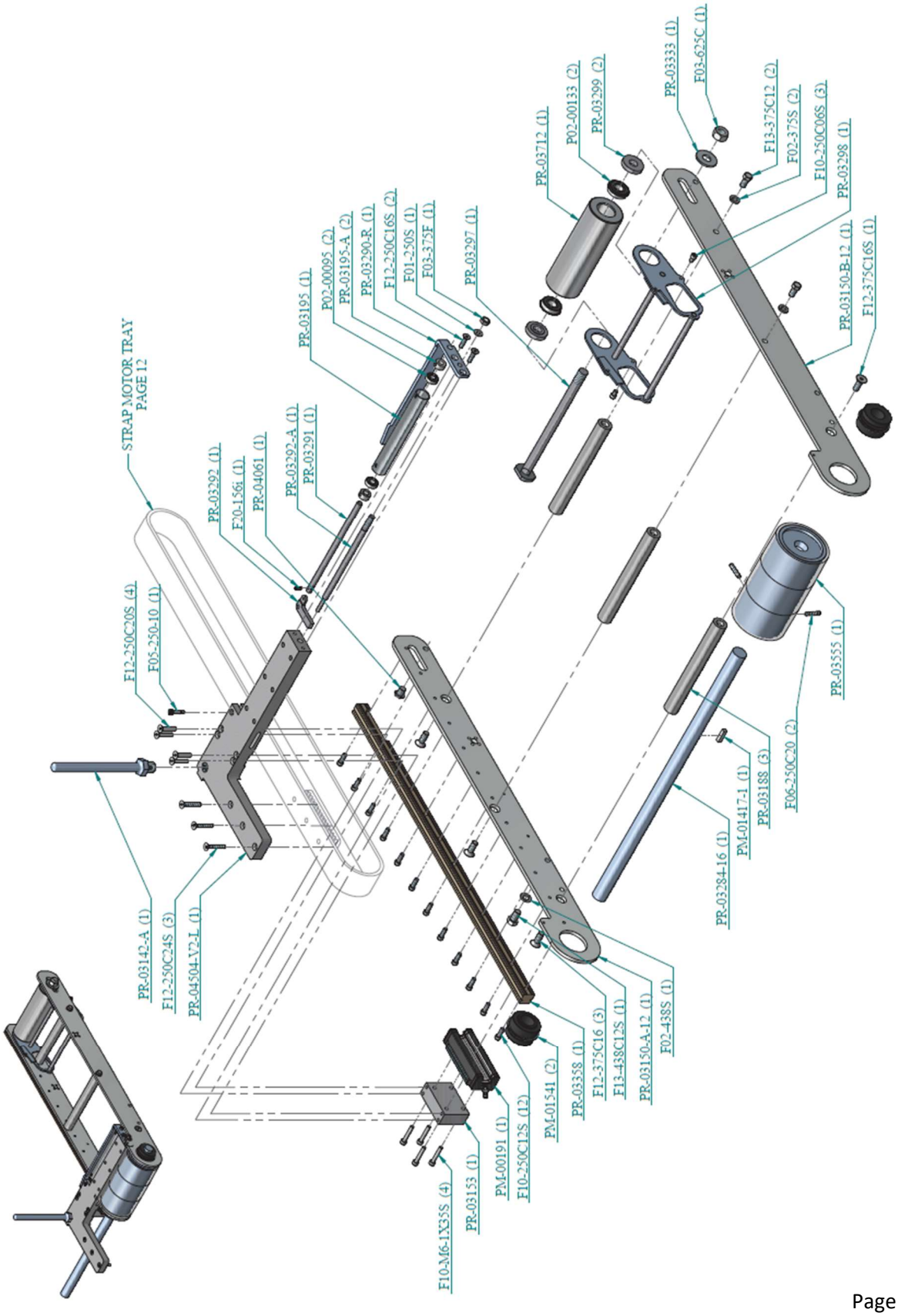
11.10: Lower retract motor



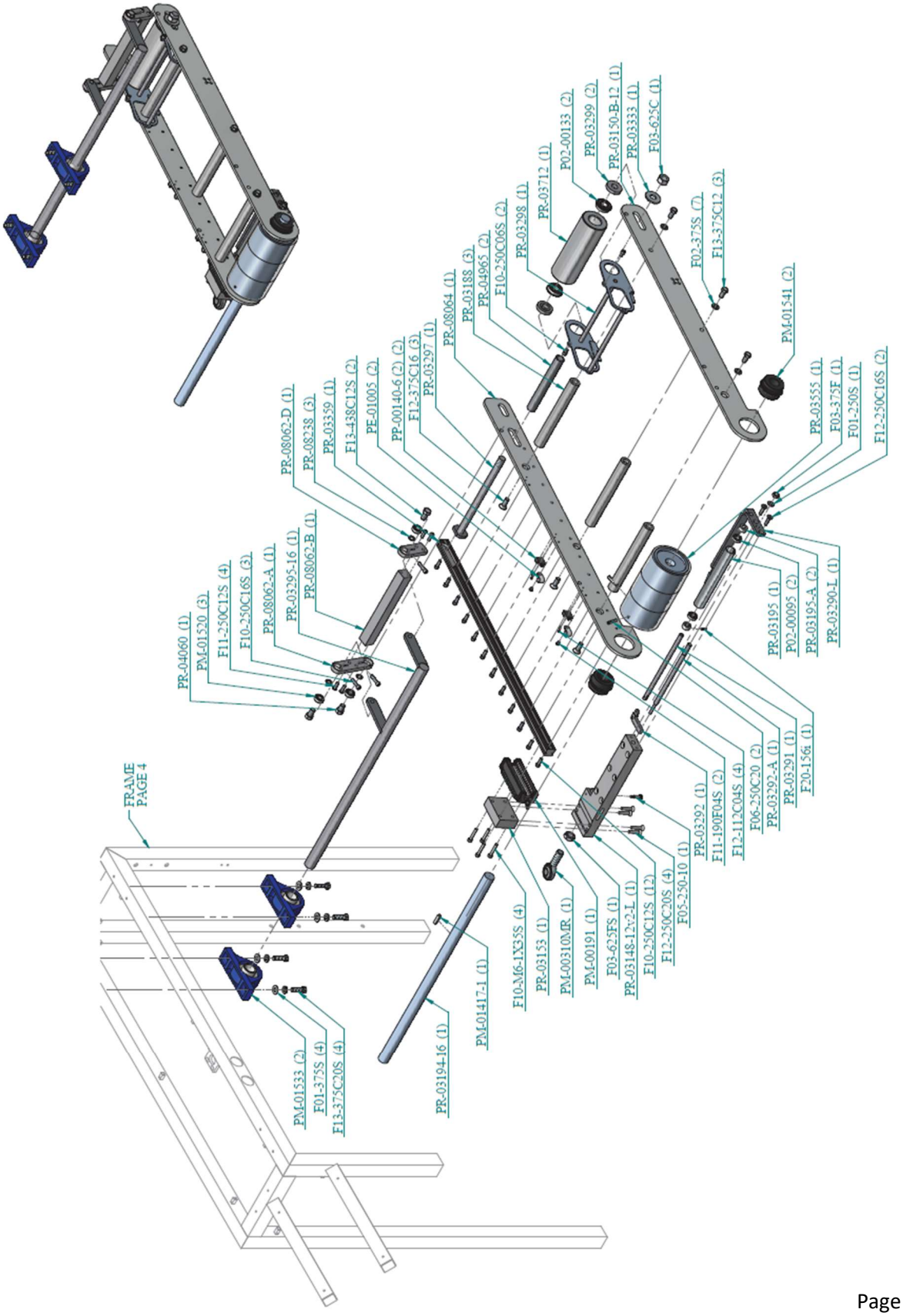
11.11: Servo retract system



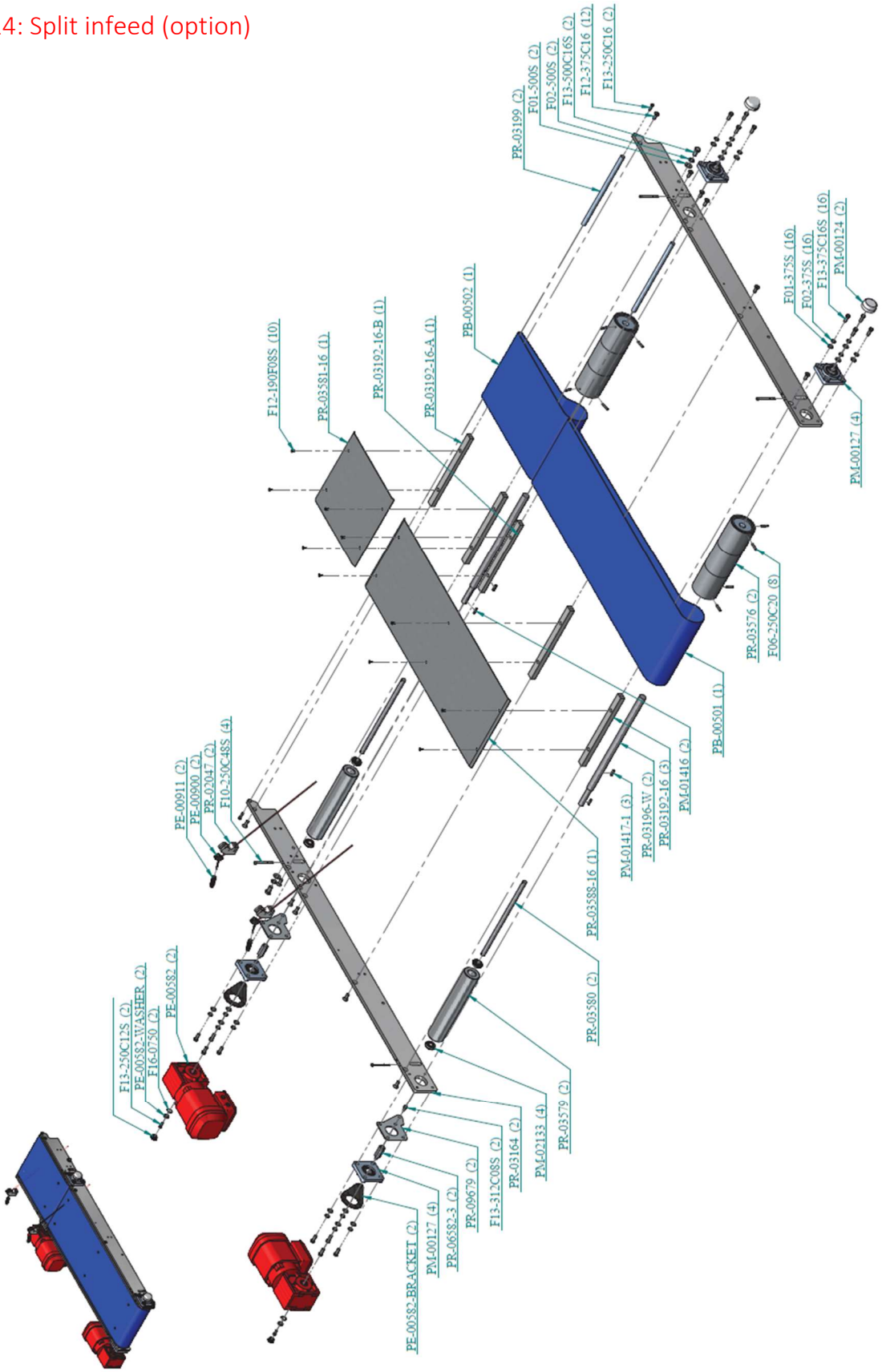
11.12: Lower tray



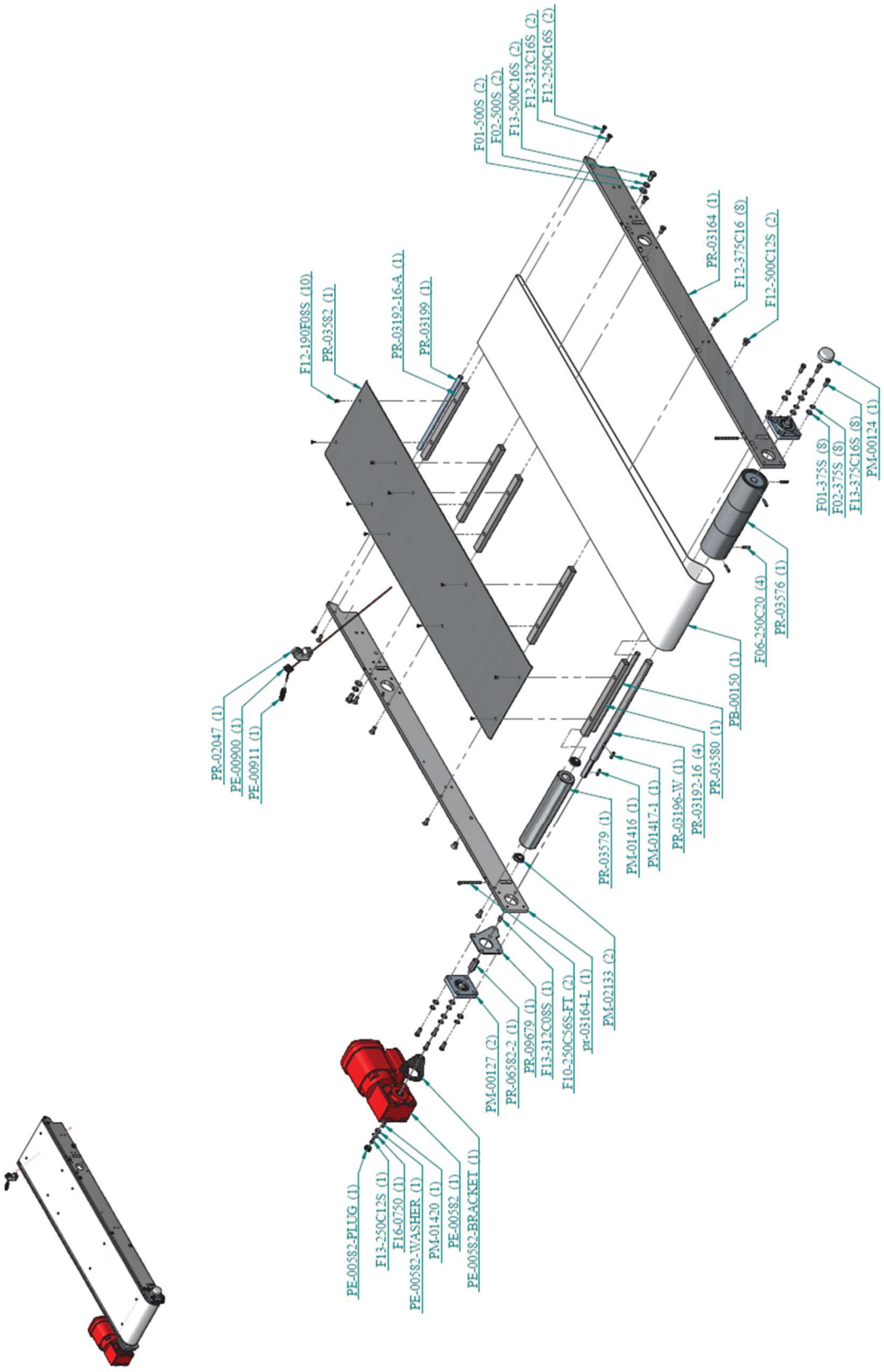
11.13: Upper tray



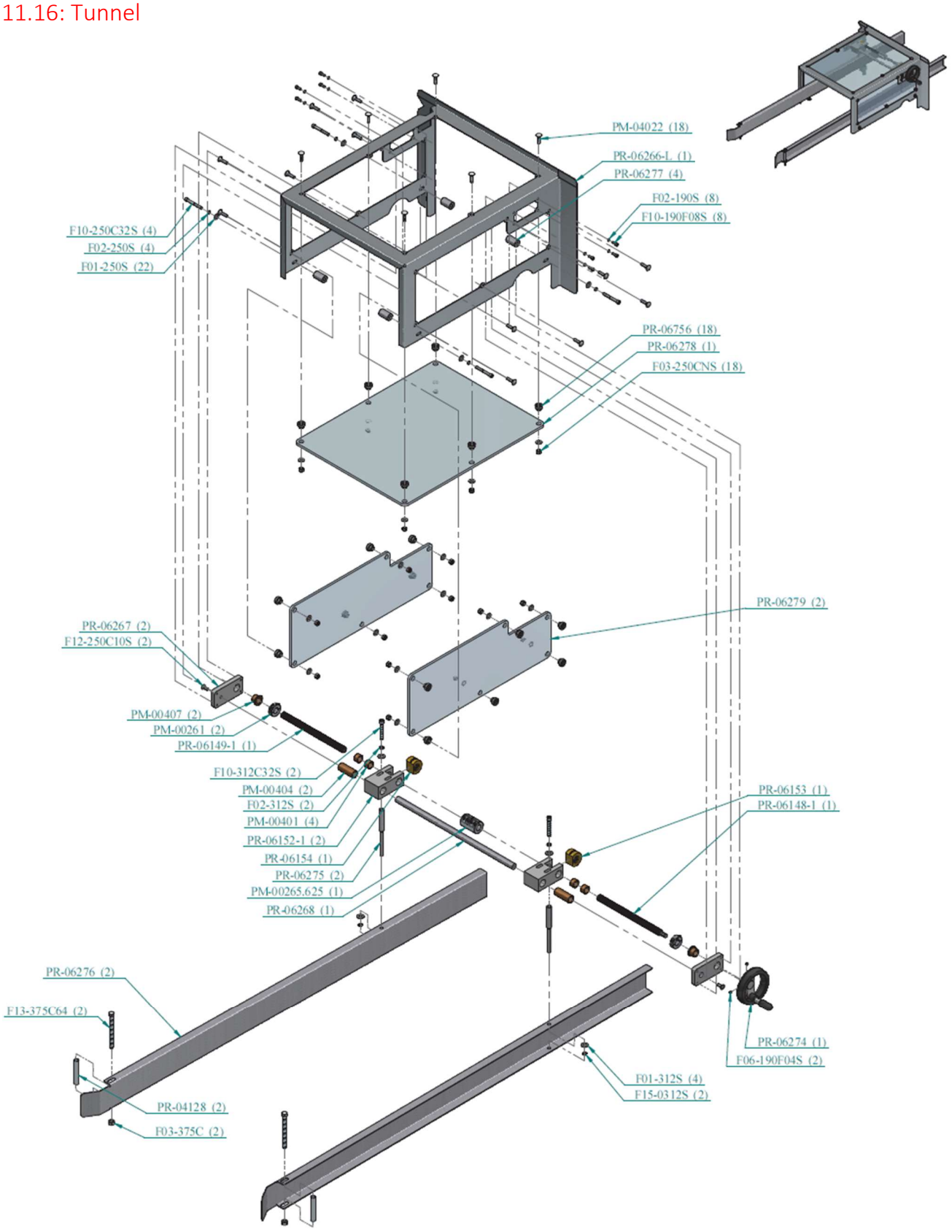
11.14: Split infeed (option)



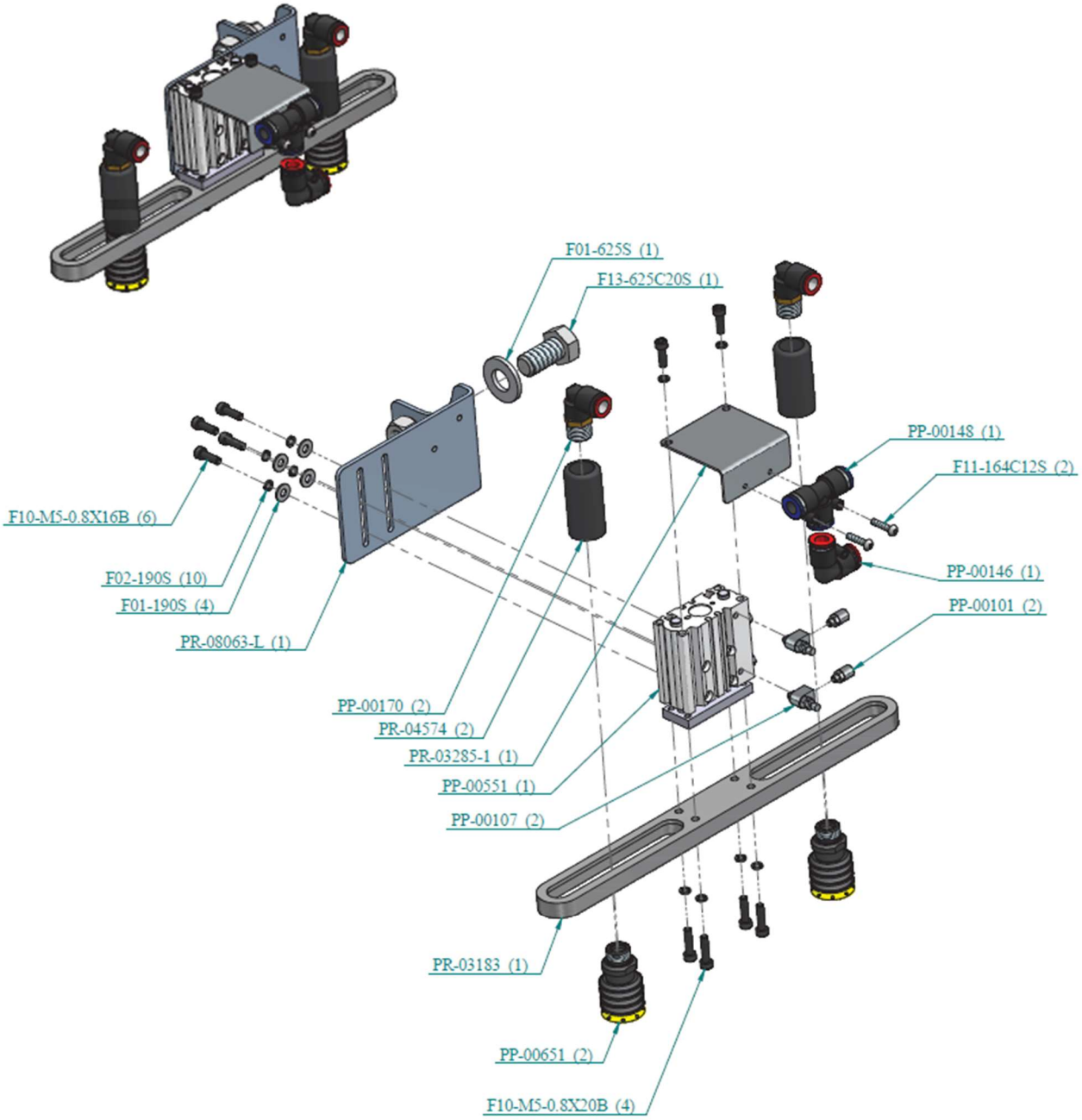
11.15: Infeed (standard)



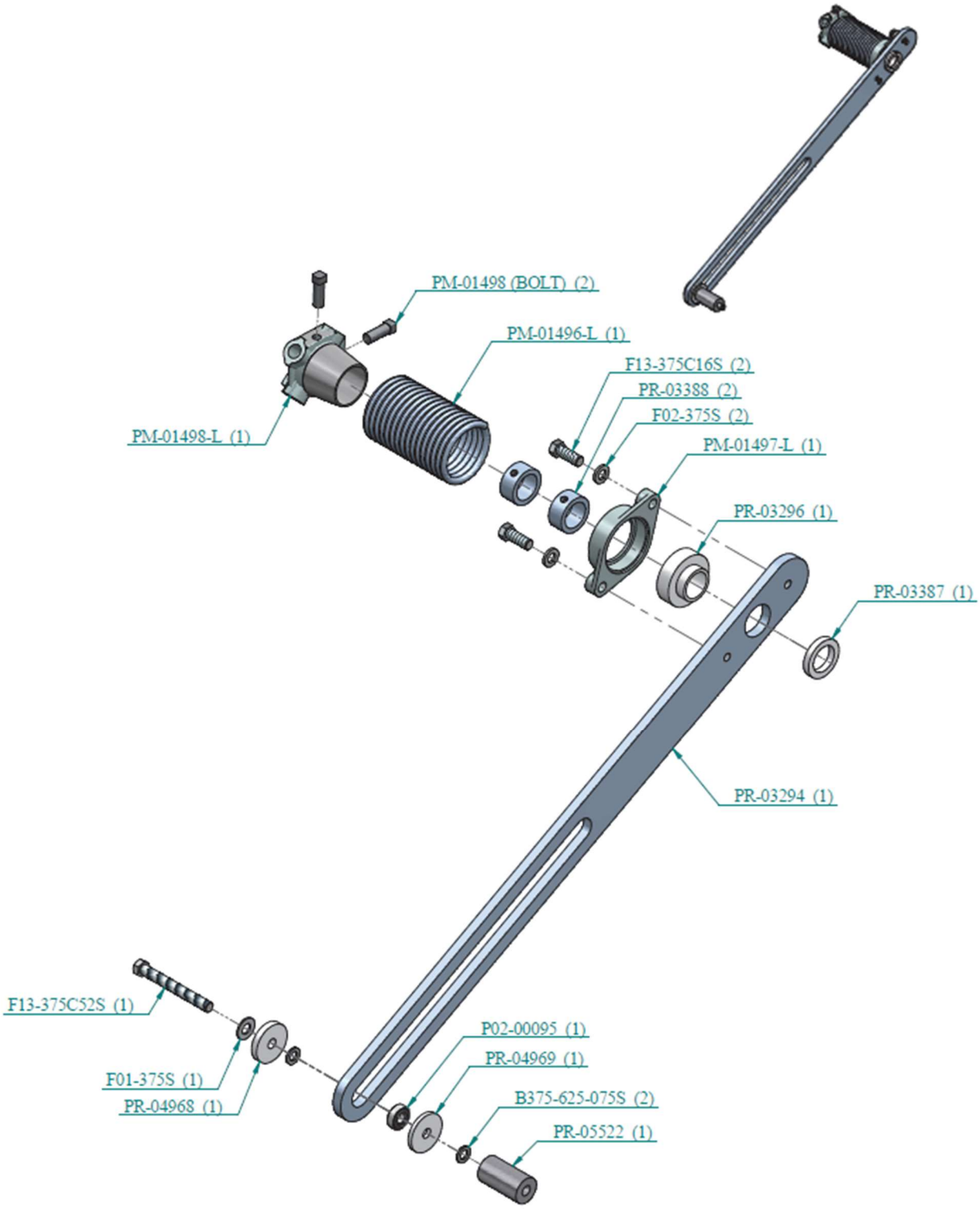
11.16: Tunnel


PM-04022 (18)
PR-06266-L (1)
PR-06277 (4)
F02-190S (8)
F10-190F08S (8)
F10-250C32S (4)
F02-250S (4)
F01-250S (22)
PR-06756 (18)
PR-06278 (1)
F03-250CNS (18)
PR-06279 (2)
PR-06267 (2)
F12-250C10S (2)
PM-00407 (2)
PM-00261 (2)
PR-06149-1 (1)
F10-312C32S (2)
PM-00404 (2)
F02-312S (2)
PM-00401 (4)
PR-06152-1 (2)
PR-06154 (1)
PR-06275 (2)
PM-00265.625 (1)
PR-06268 (1)
PR-06153 (1)
PR-06148-1 (1)
PR-06276 (2)
F13-375C64 (2)
PR-06274 (1)
F06-190F04S (2)
F01-312S (4)
F15-0312S (2)
PR-04128 (2)
F03-375C (2)

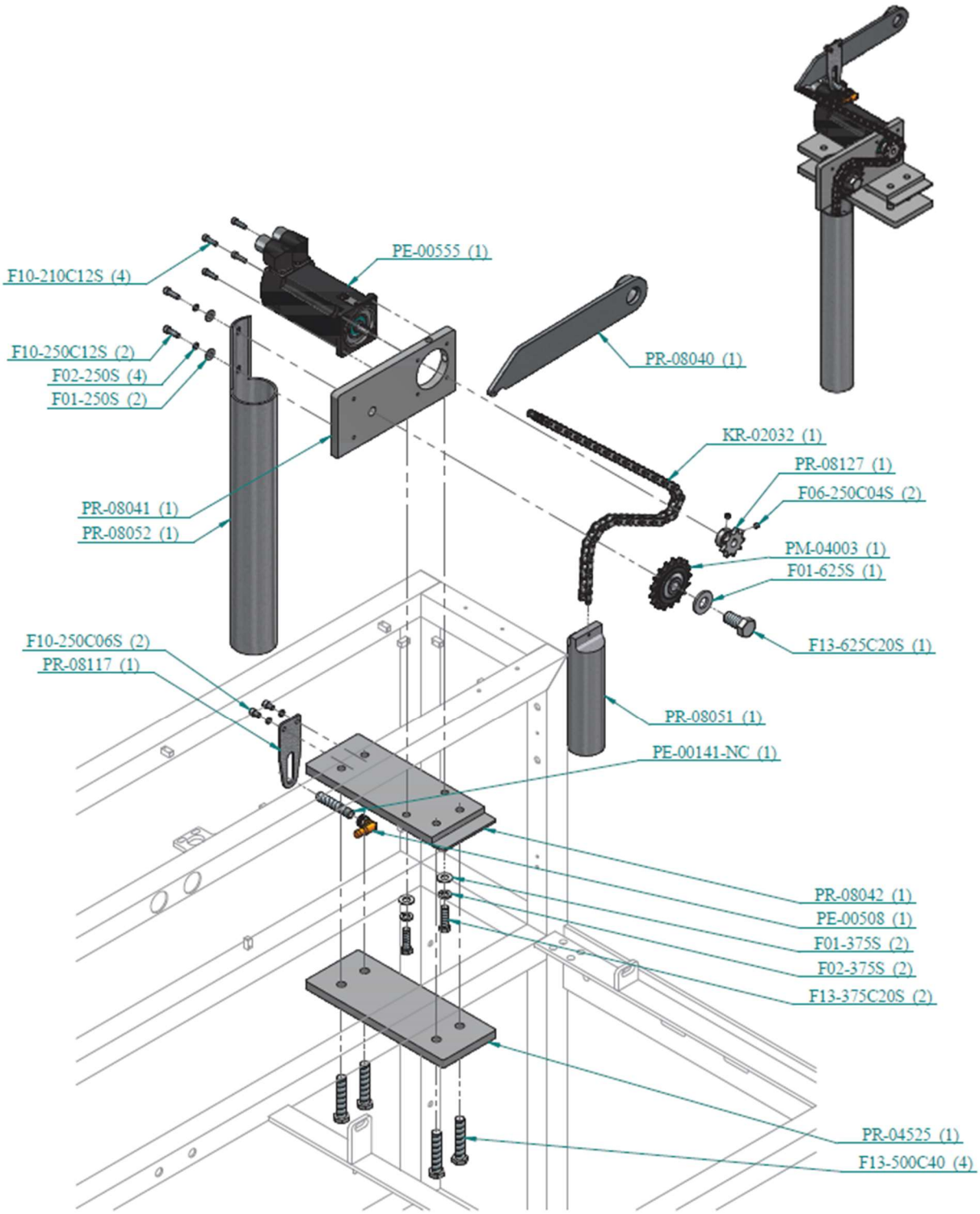
11.17: Bag opener / Vacuum (option)



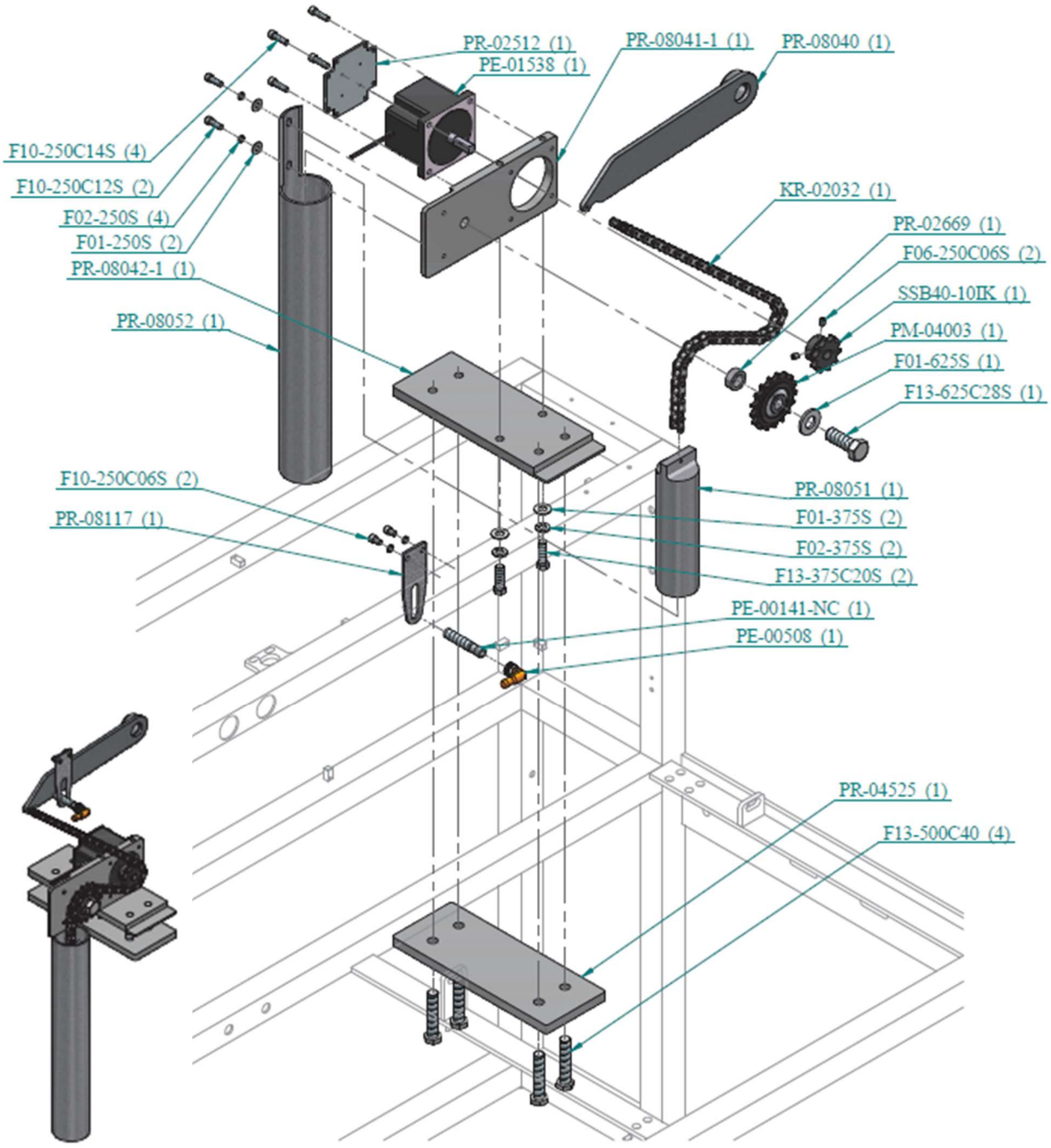
11.18: Up / Down spring (option)



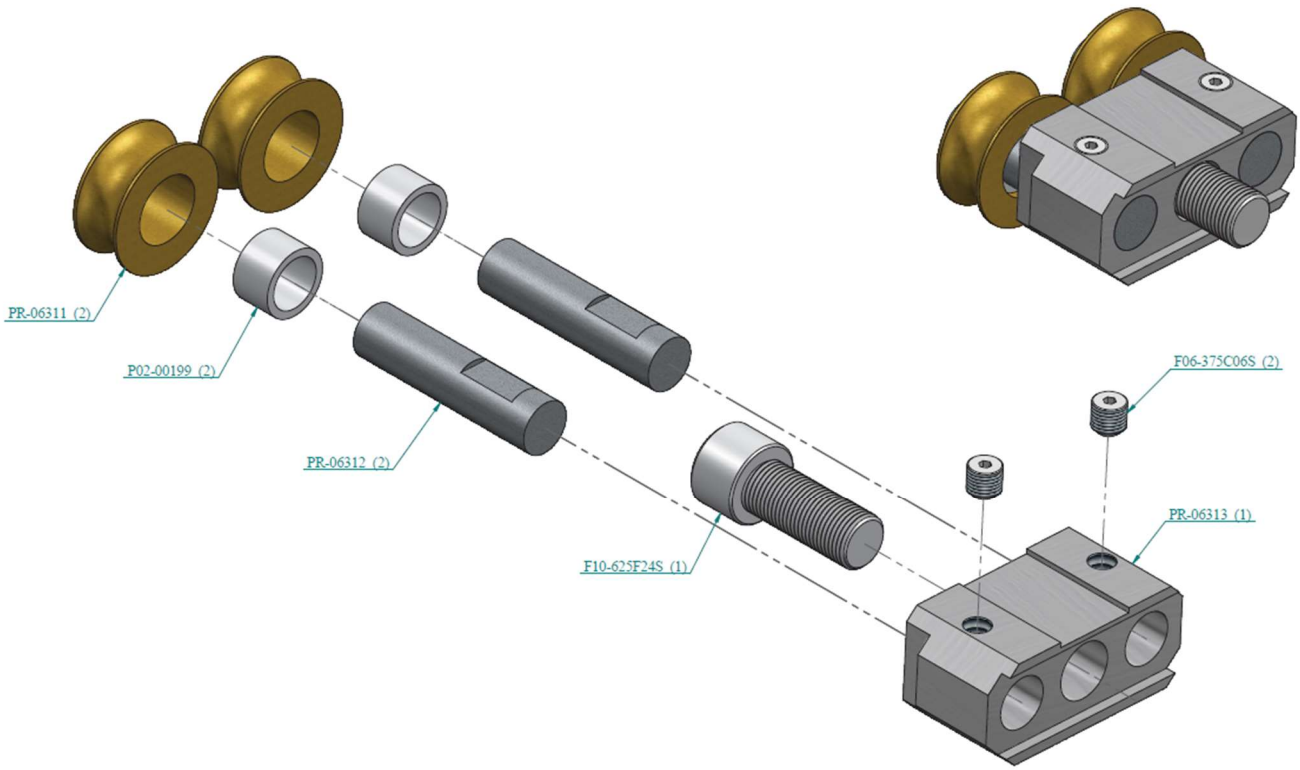
11.19: Up / Down servo motor (option)



11.20: Up / Down stepper motor (option)

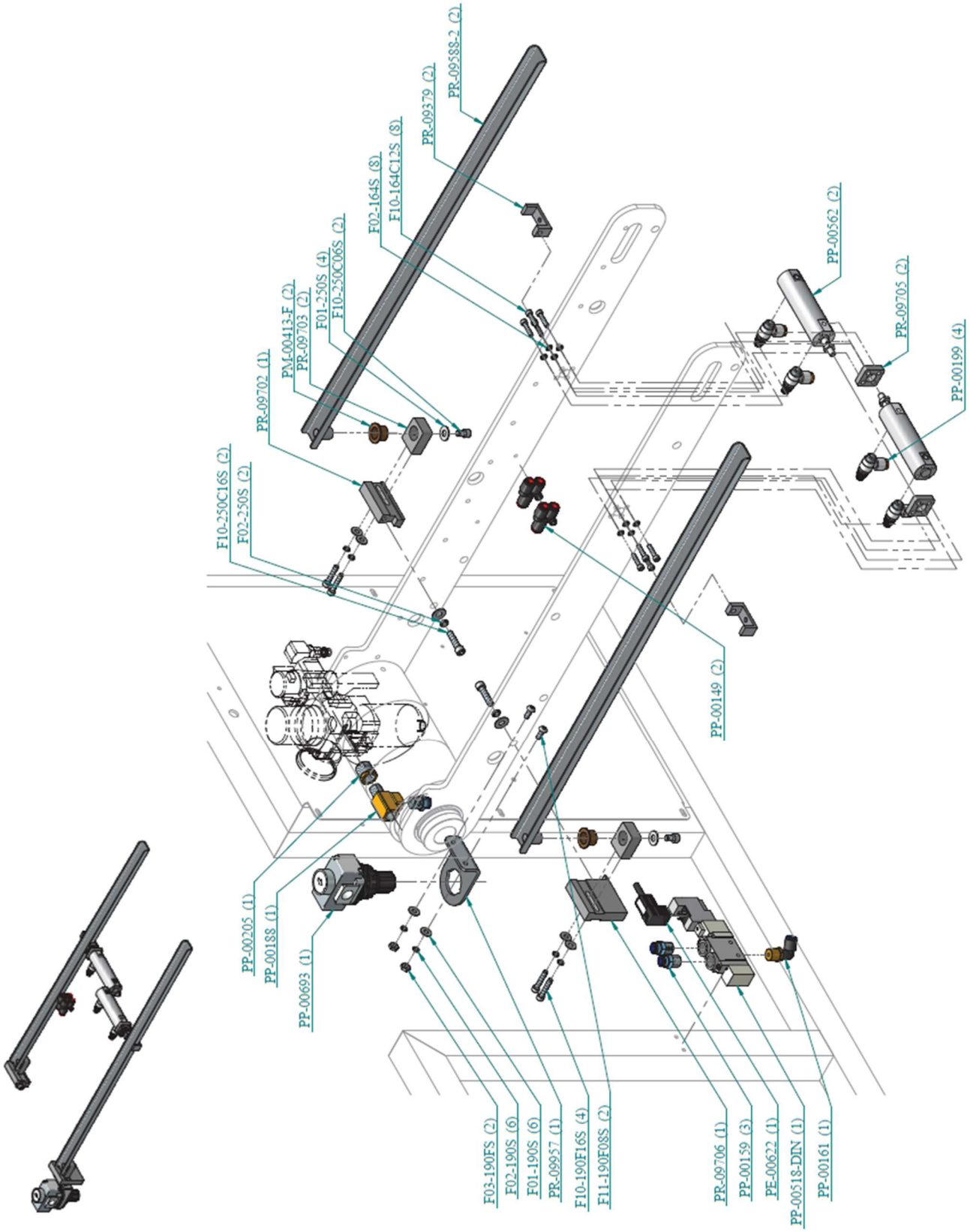


11.21: KR-5050-16-001 Up / Down shaft rollers kit

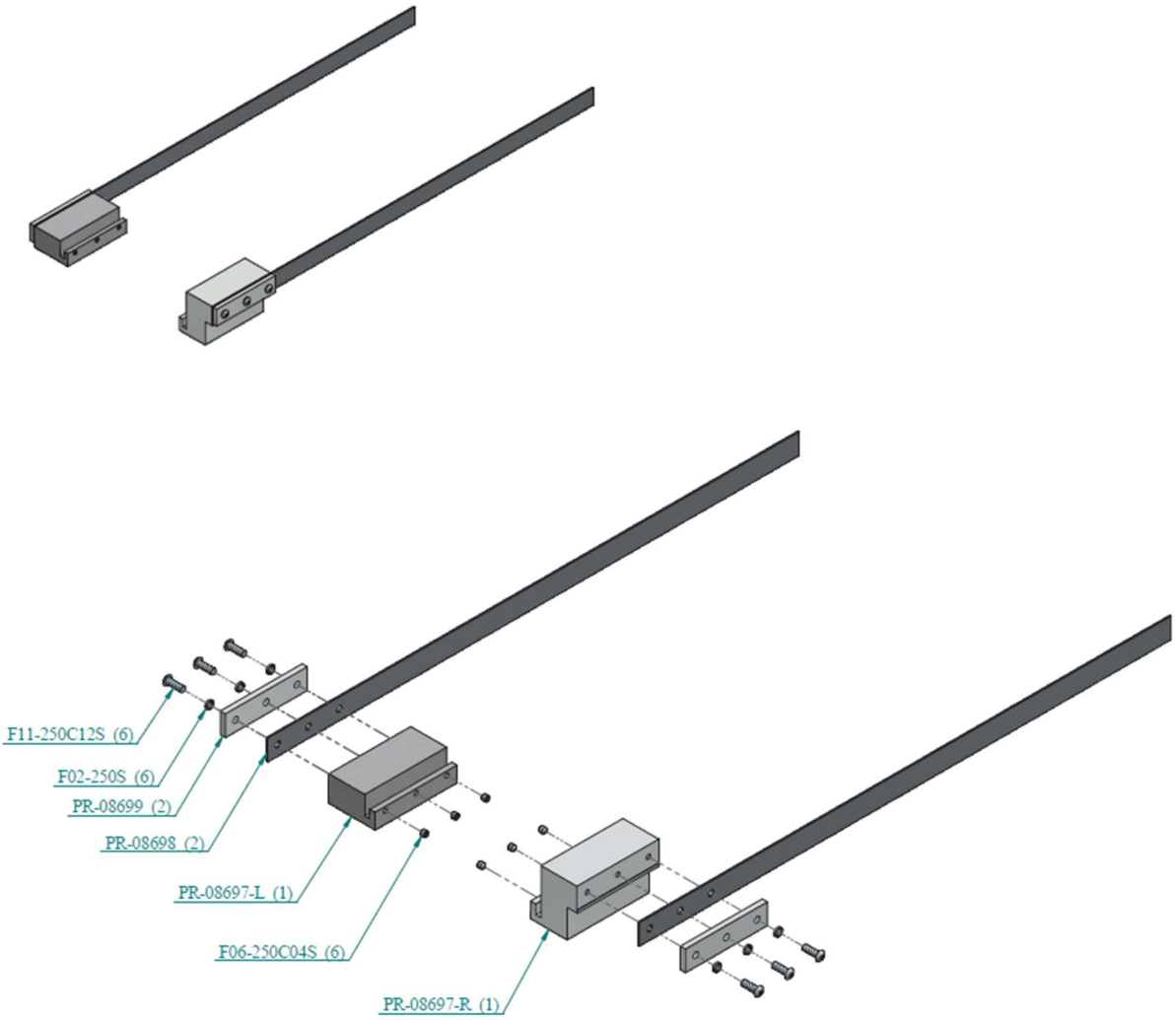


11.22: Scoop air system (option) KR-5050-16-SC-SERVO

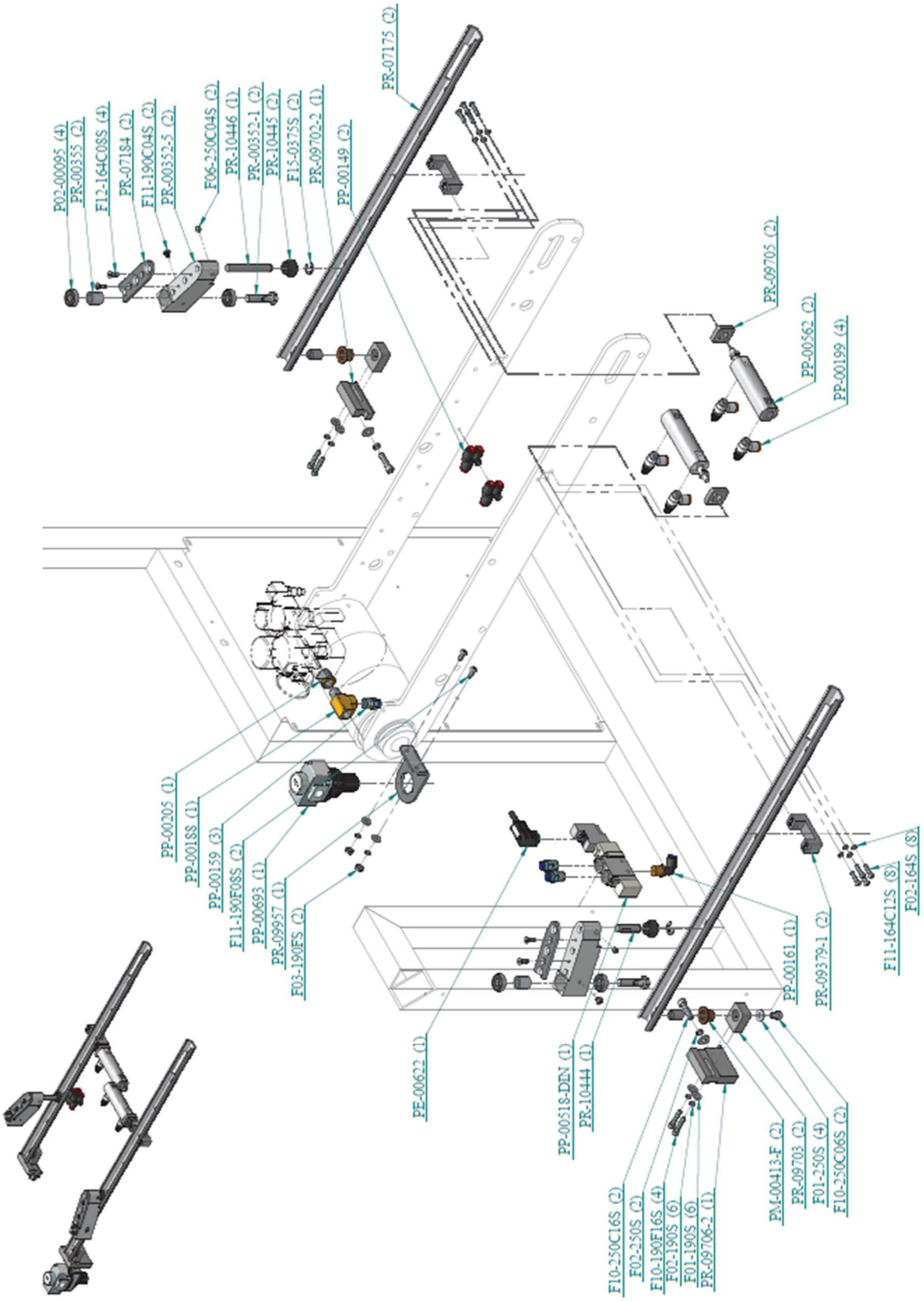
Important: Design modification. Improved system is <u>KR-5050-SC-RAIL</u>



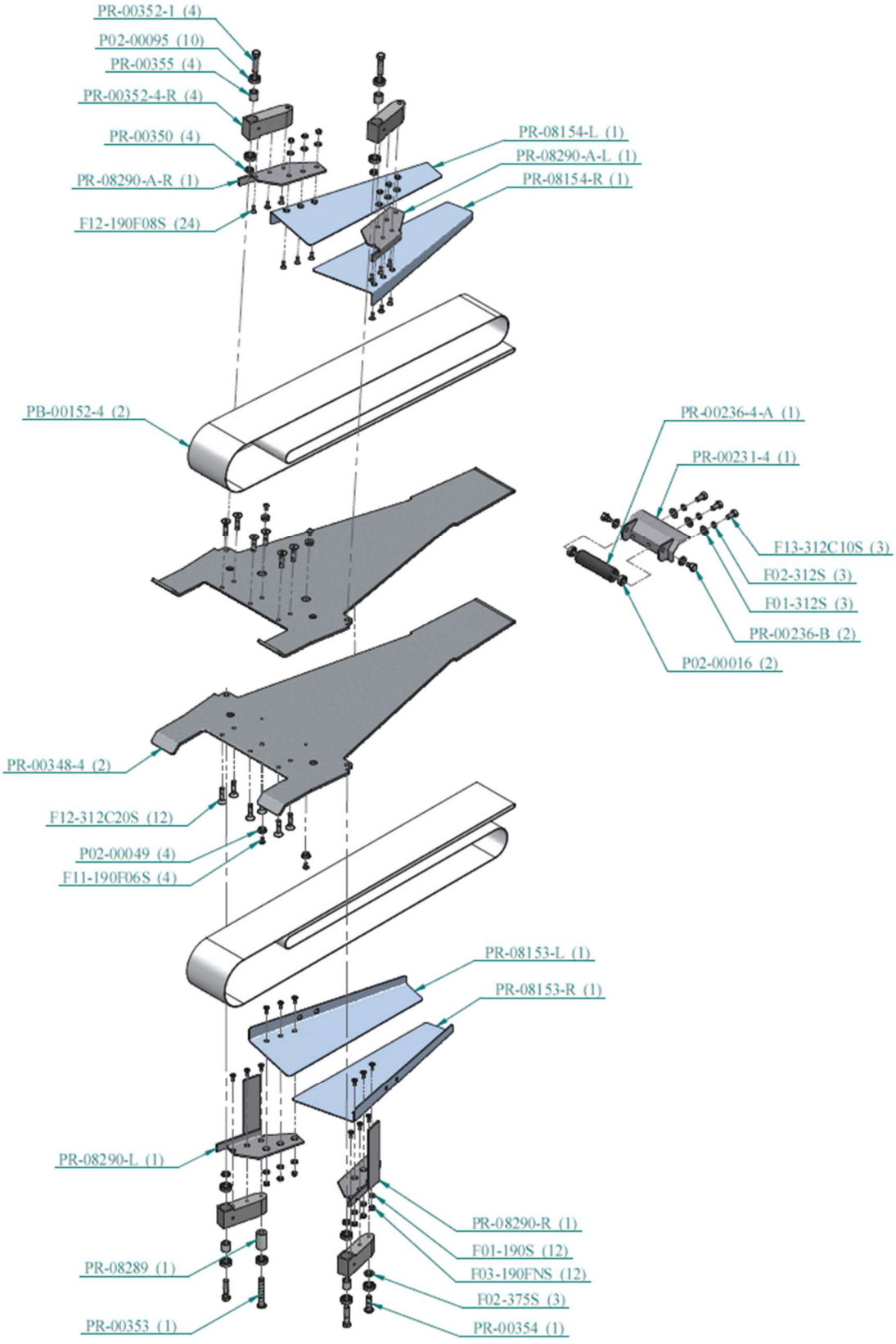
11.23: Scoop spring (option) KR-5050-16-SC-SPRING



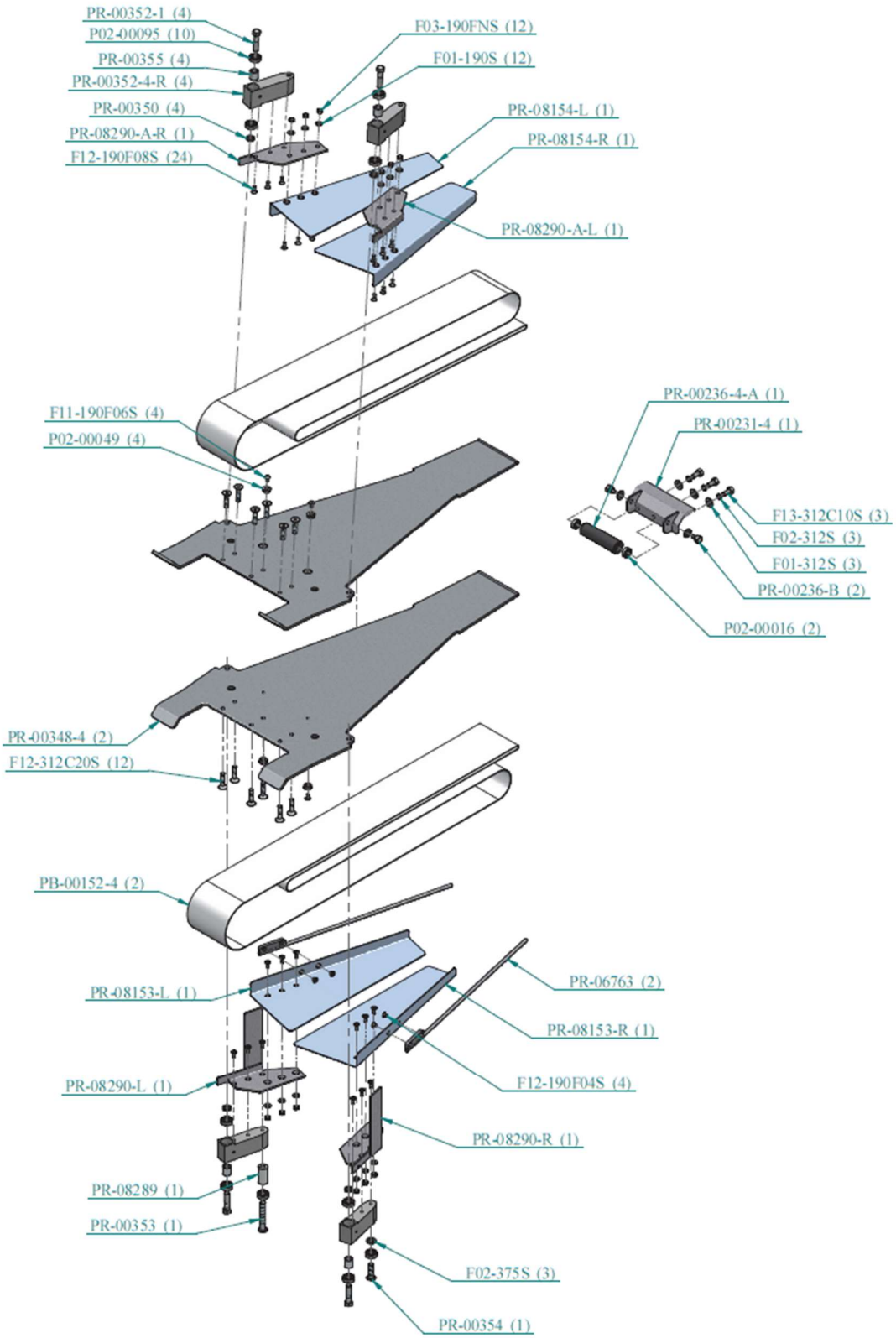
11.24: Scoop air system (option) KR-5050-16-SC-RAIL



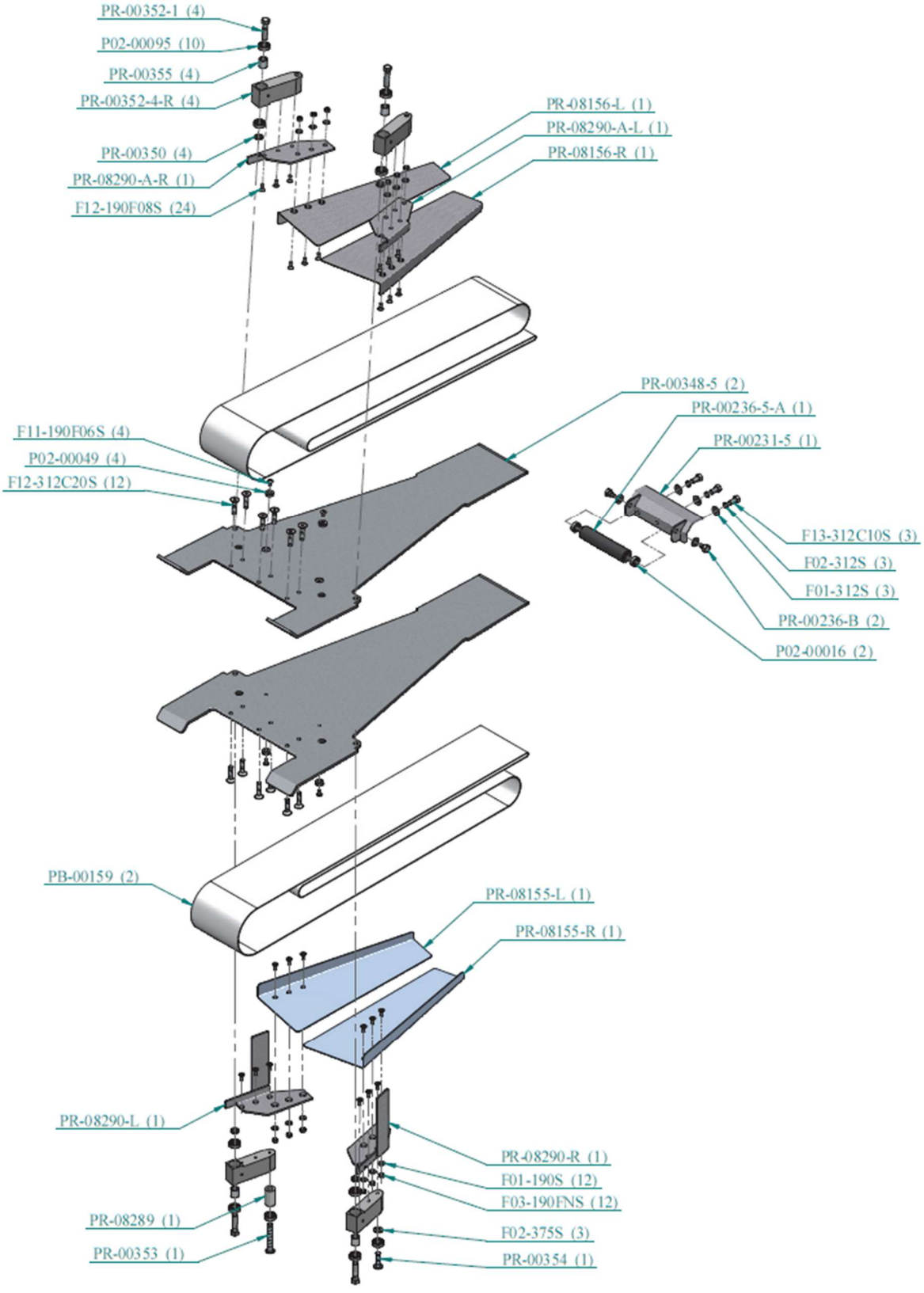
11.25: KR-5050-16-SC-4



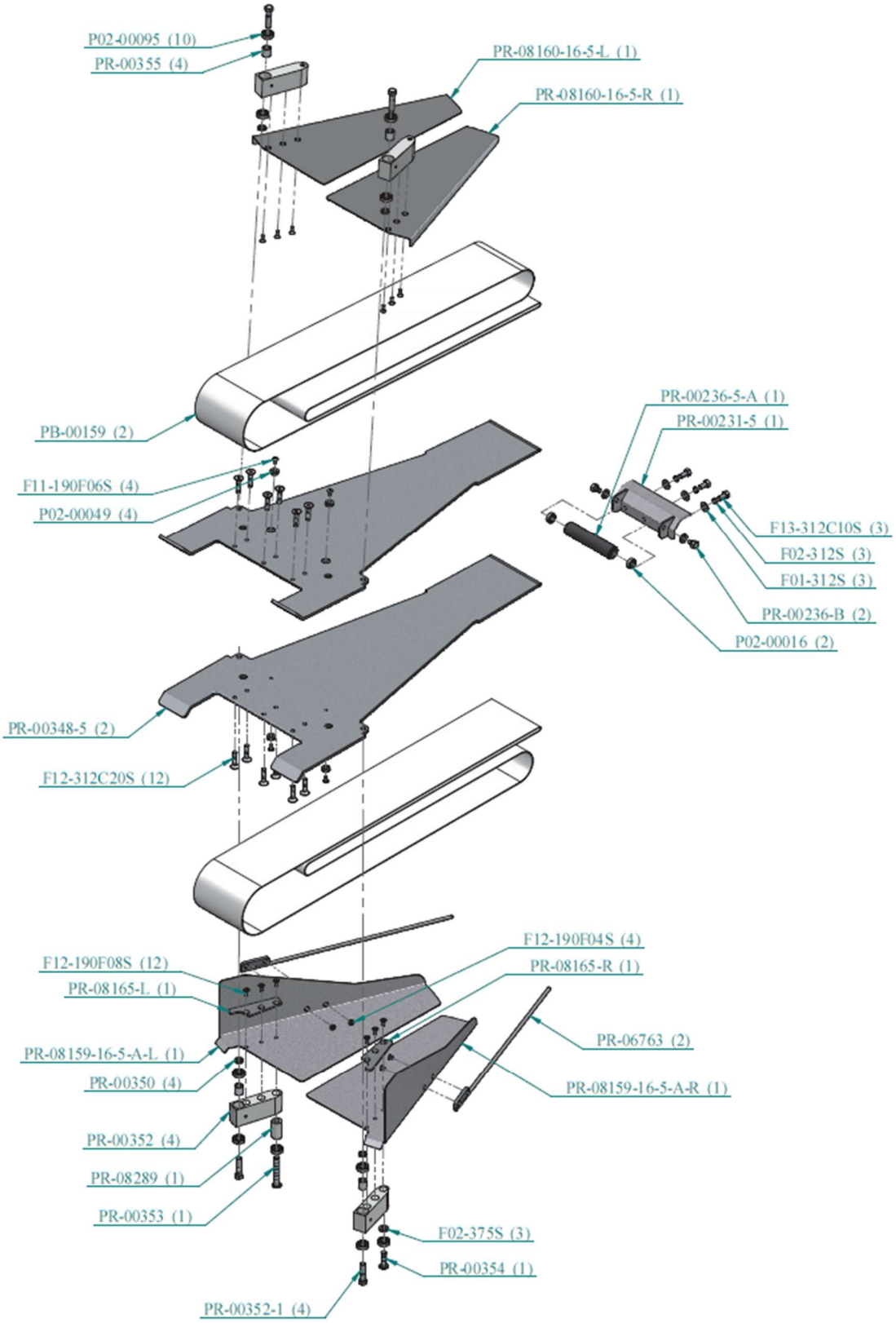
11.26: KR-5050-16-SC-4-ANT



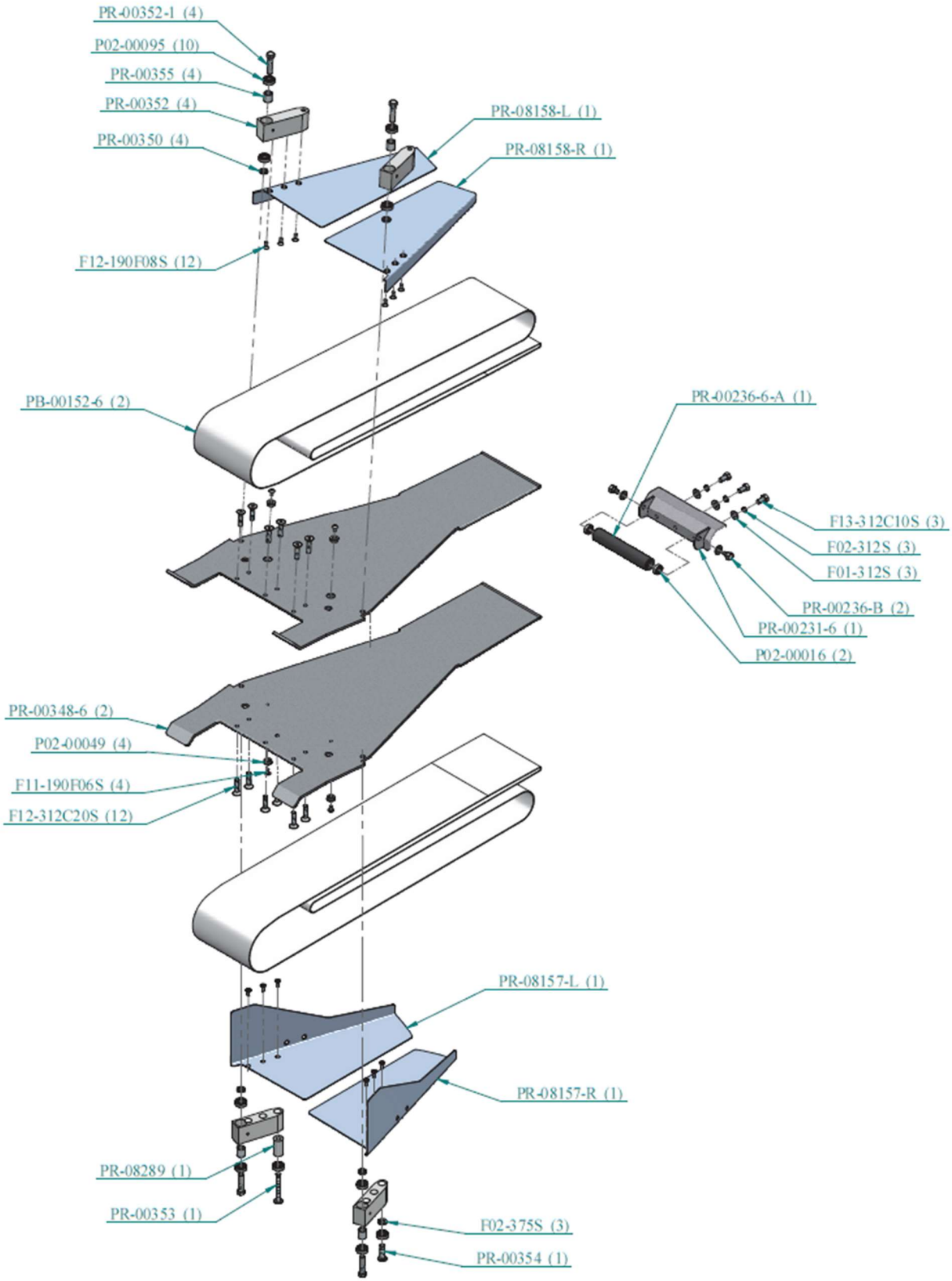
11.27: KR-5050-16-SC-5



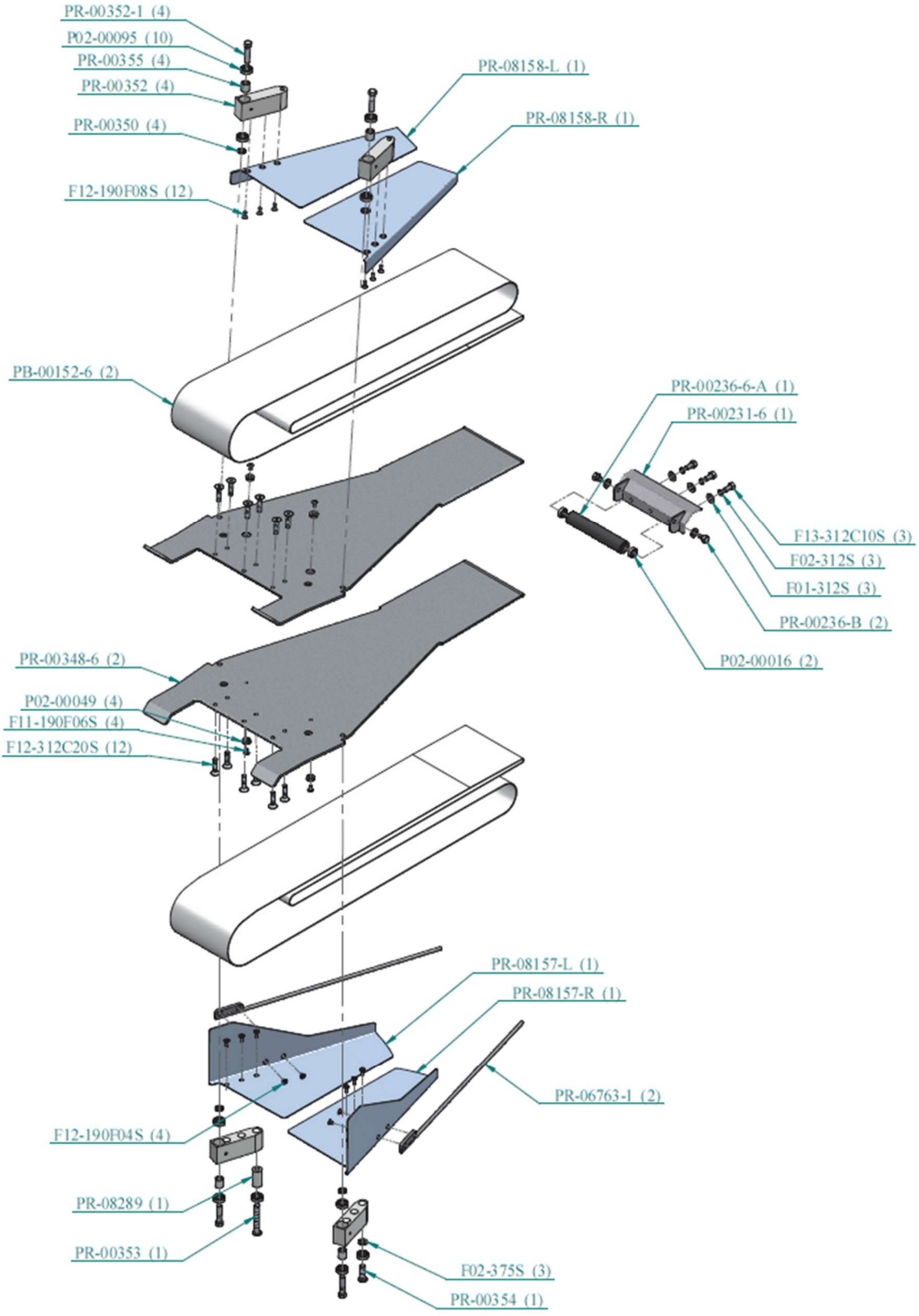
11.28: KR-5050-16-SC-5-ANT



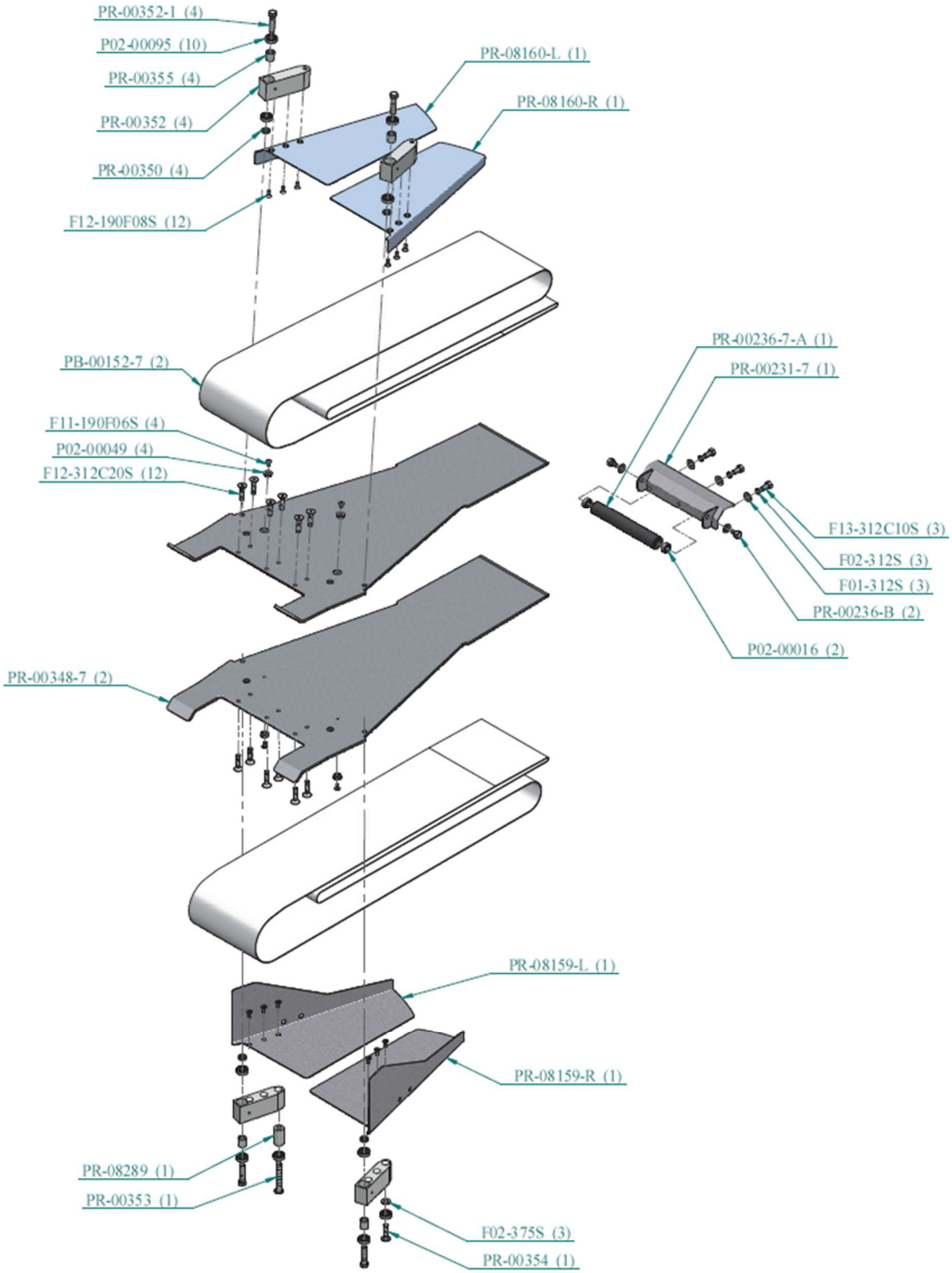
11.29: KR-5050-16-SC-6



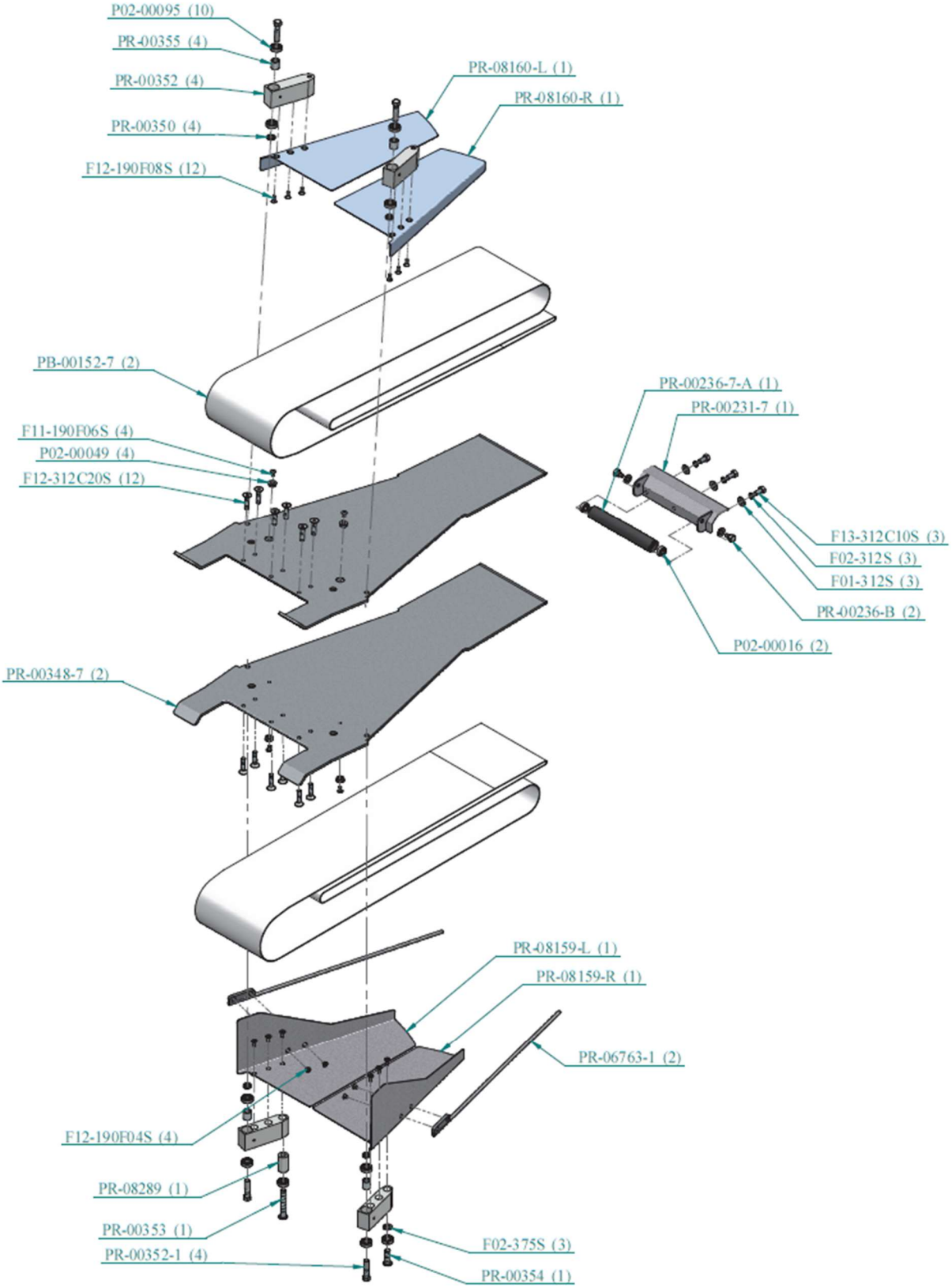
11.30: KR-5050-16-SC-6-ANT



11.31: KR-5050-16-SC-7

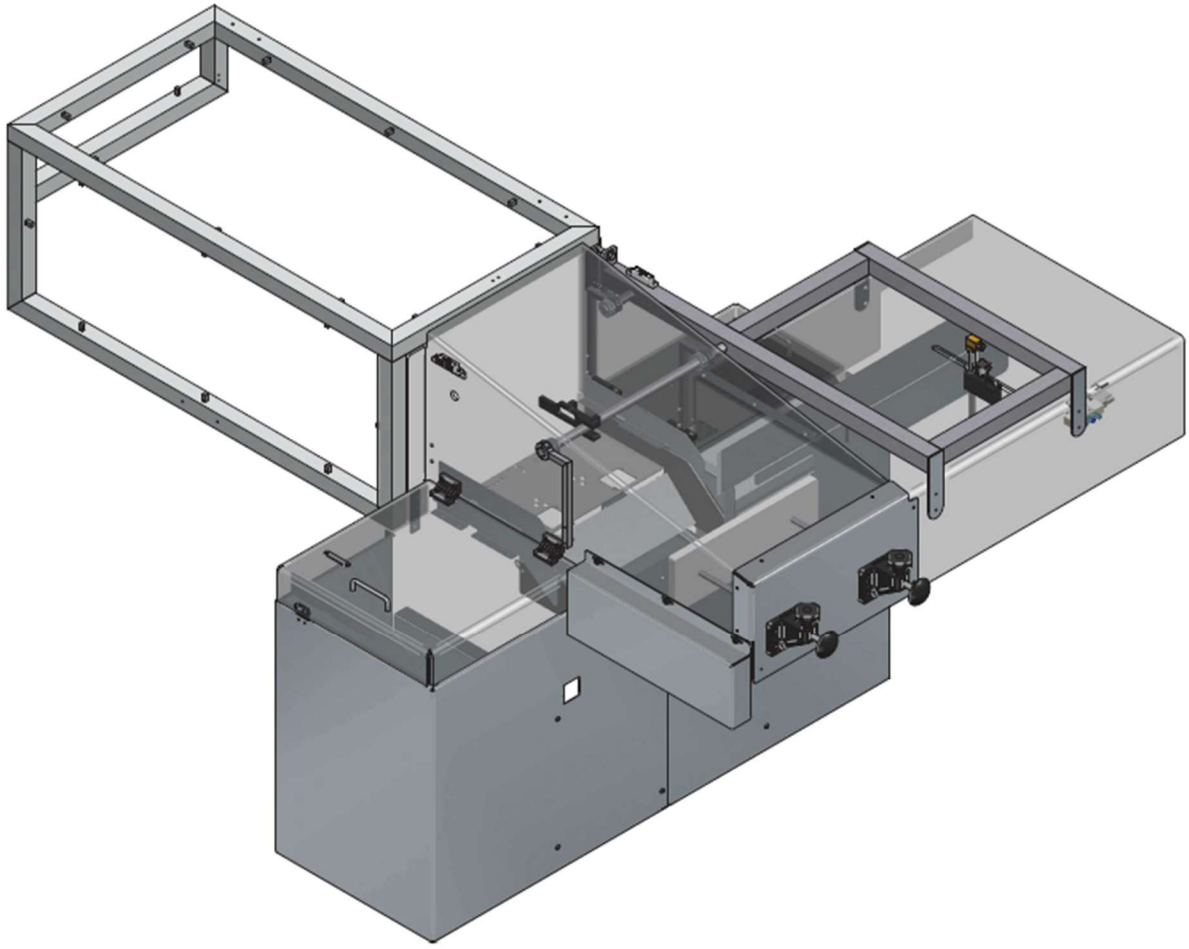


11.32: KR-5050-16-SC-7-ANT

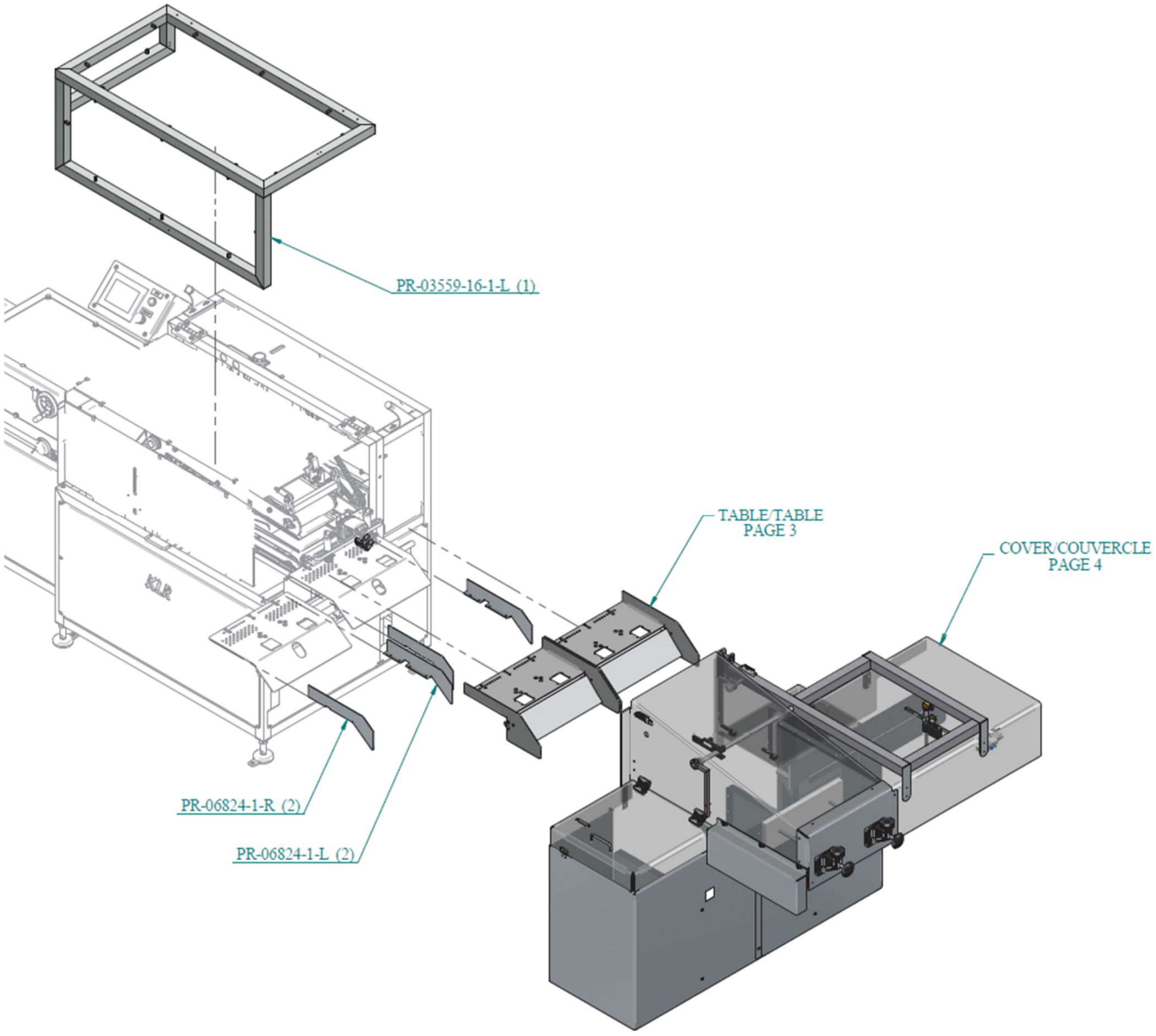


12.0: KR-5050-16-SG4-LL

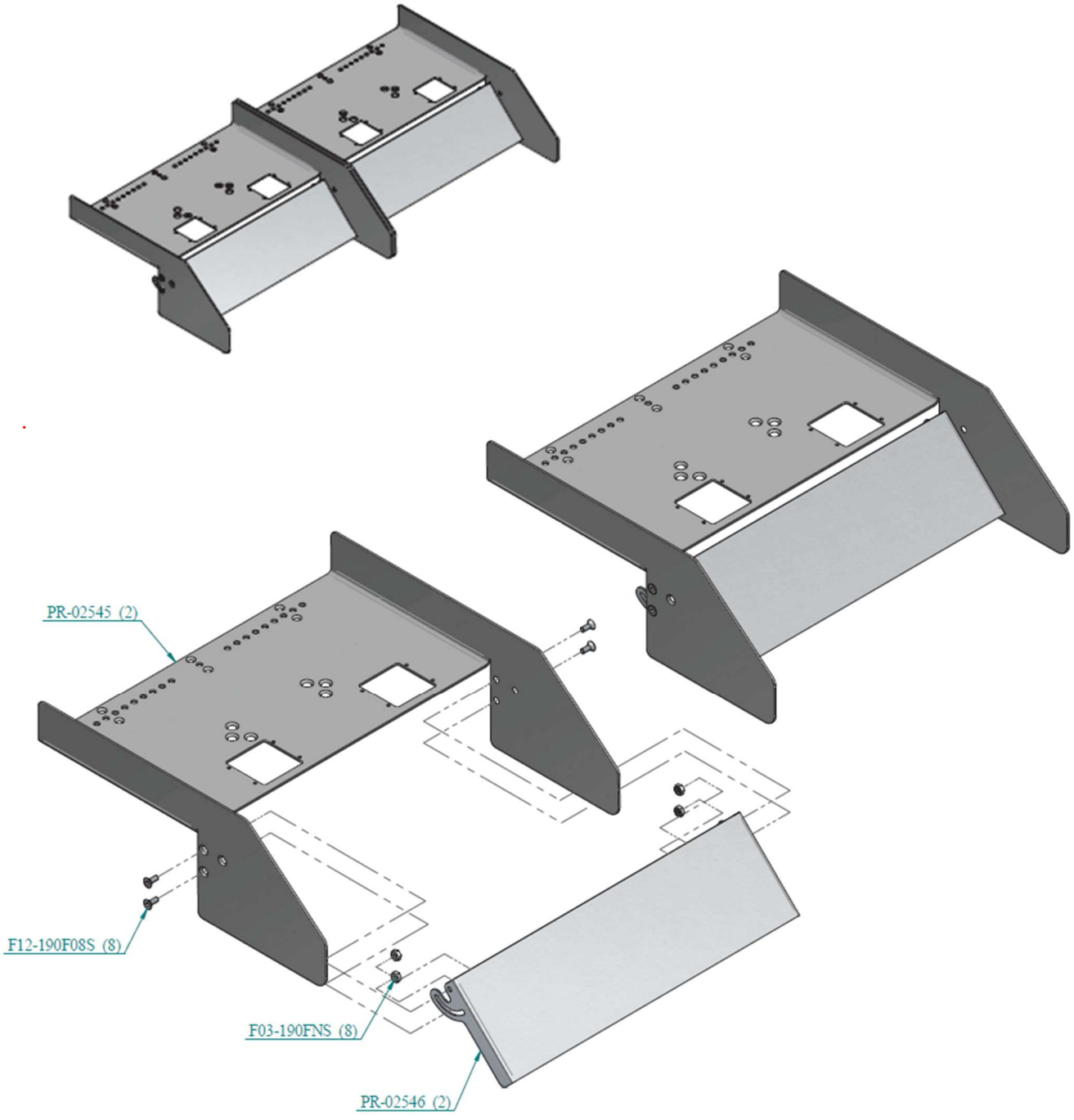
Please, make sure to select the correct parts list. LL stand for **Left machine**, **Left conveyor**. If your machine is a RR, this parts list is good by exchanging all the L by R in the part numbers.



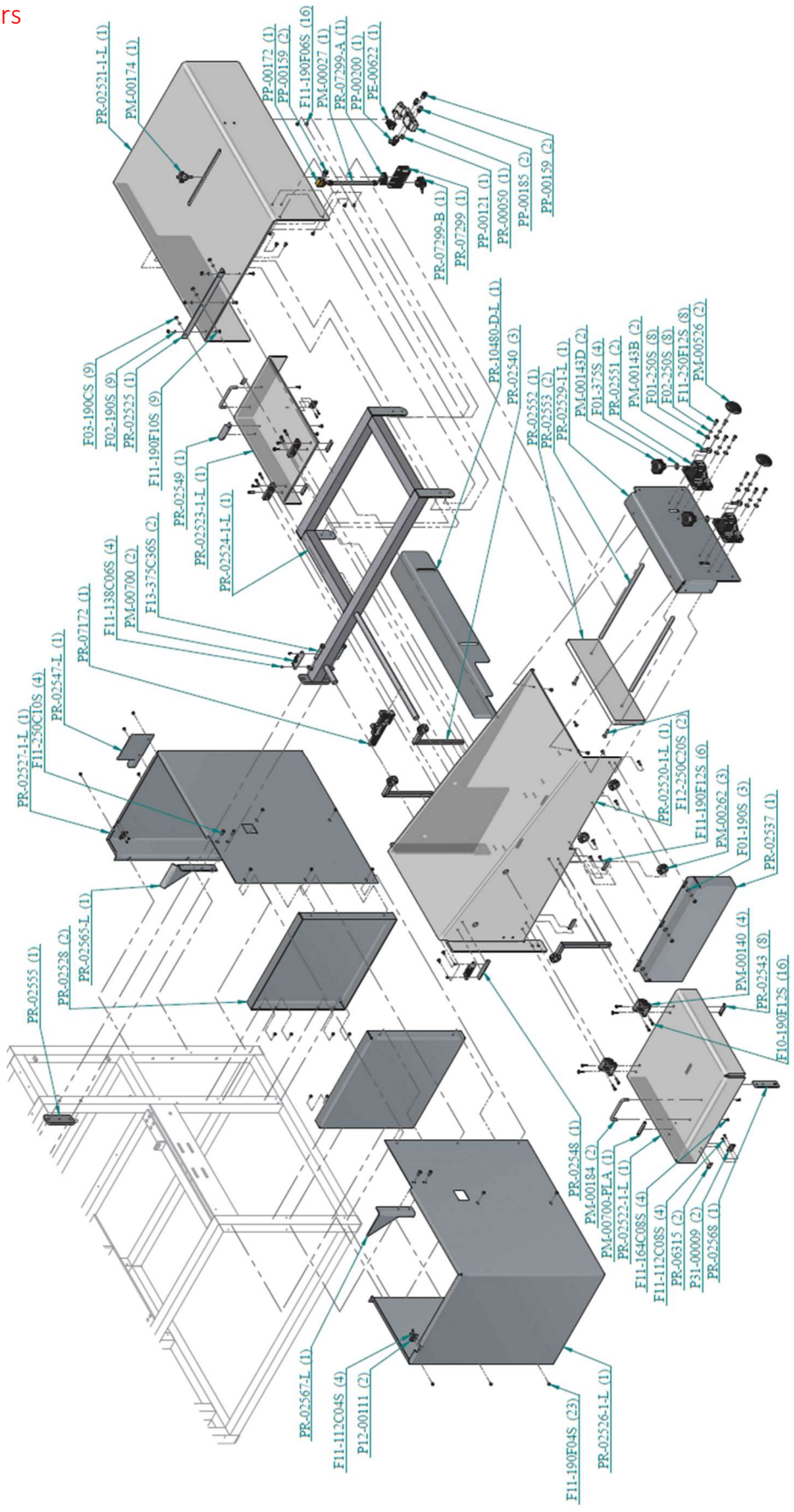
12.1: Full assembly



12.2: Bag tables



12.3: Covers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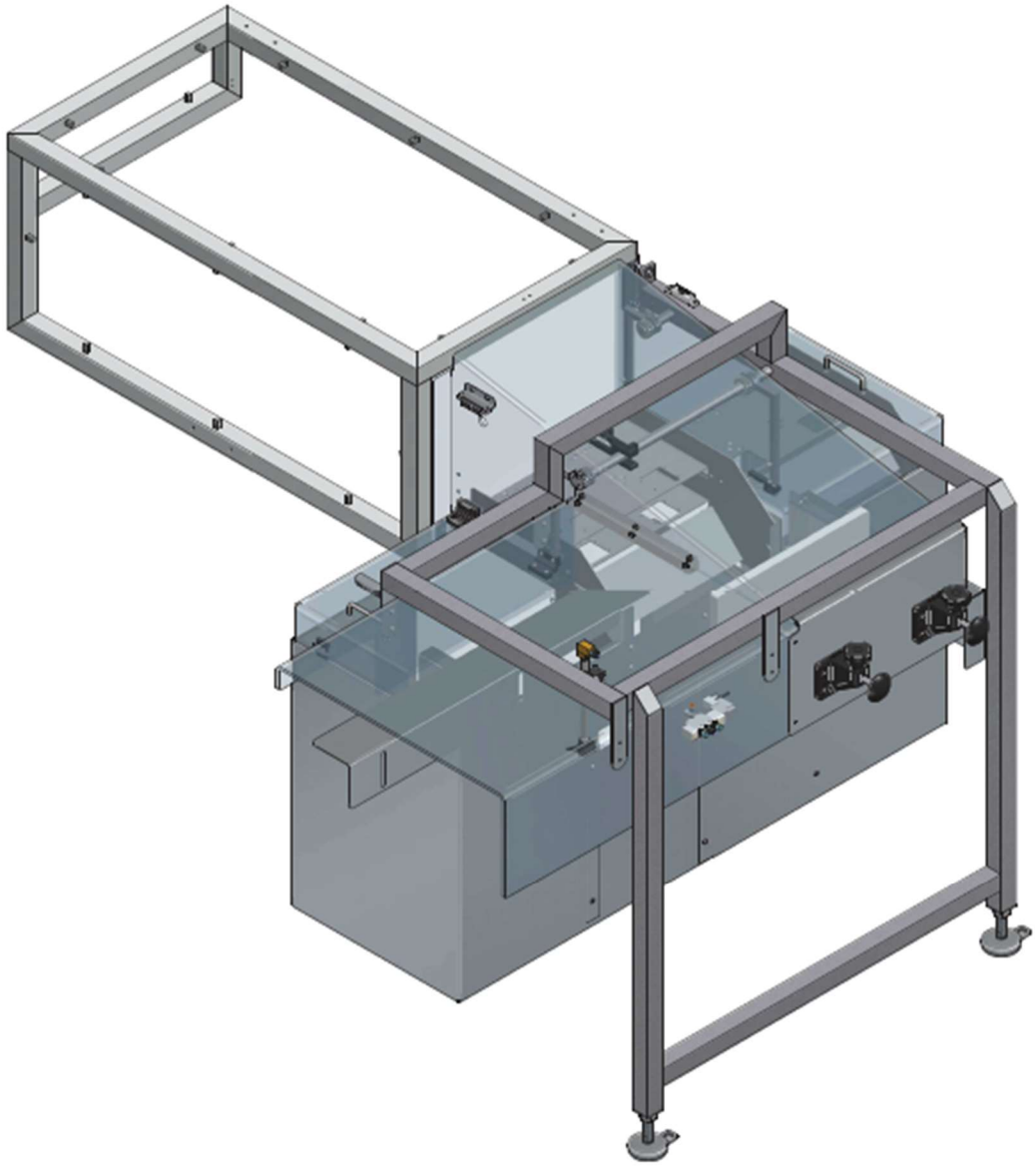
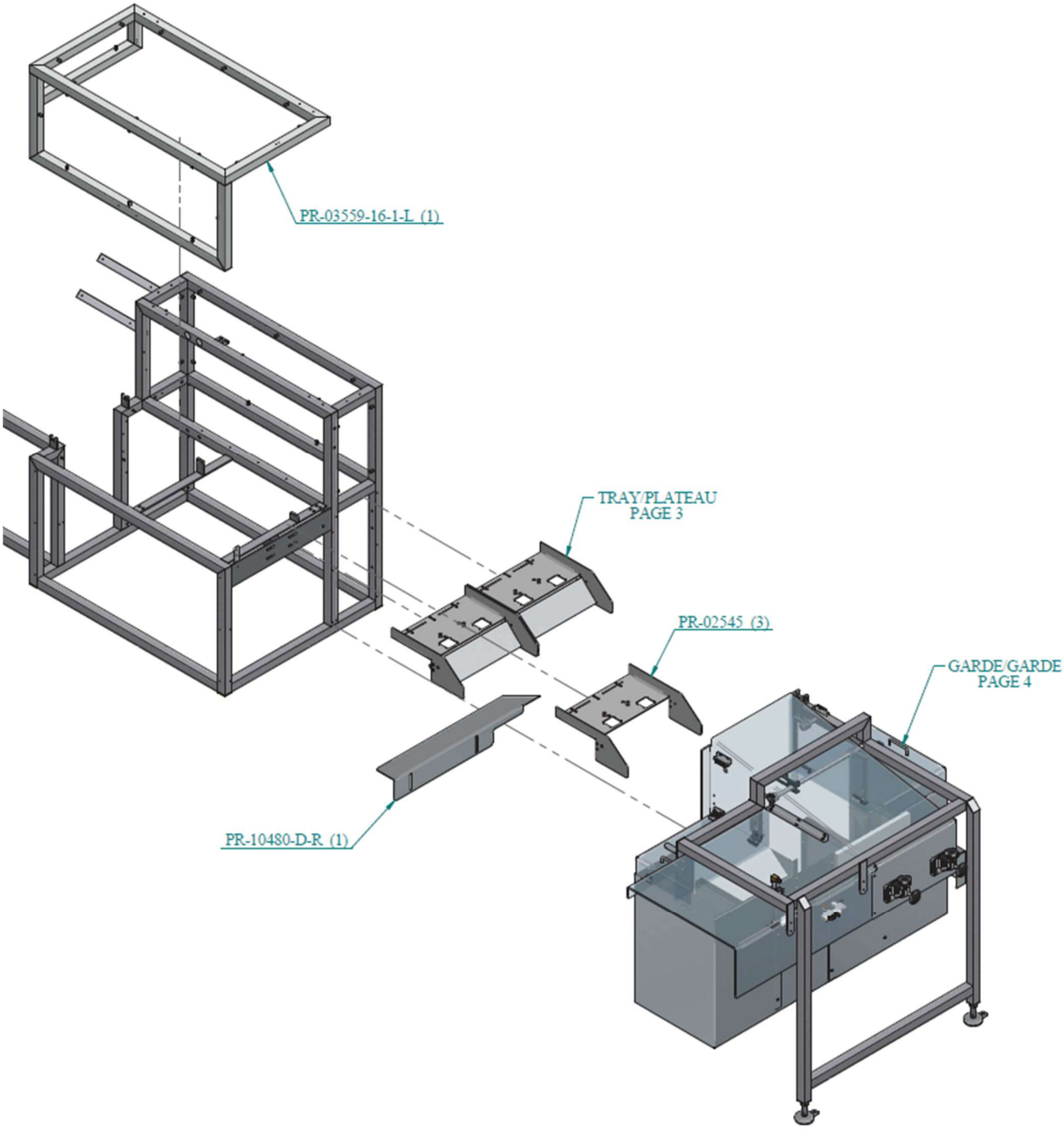
PM-00174 (1)
PP-00172 (1)
PP-00159 (2)
F11-190F06S (16)
PM-00027 (1)
PR-07299-A (1)
PP-00200 (1)
PE-00622 (1)
PR-07299-B (1)
PR-07299 (1)
PP-00121 (1)
PR-00050 (1)
PP-00185 (2)
PP-00159 (2)
F03-190CS (9)
F02-190S (9)
PR-02525 (1)
F11-190F10S (9)
PR-02549 (1)
PR-02523-1-L (1)
PR-02524-1-L (1)
PR-10480-D-L (1)
PR-02540 (3)
PR-02552 (1)
PR-02553 (2)
PR-02529-1-L (1)
PM-00143D (2)
F01-375S (4)
PR-02551 (2)
PM-00143B (2)
F01-250S (8)
F02-250S (8)
F11-250F12S (8)
PM-00526 (2)
F11-138C06S (4)
PM-00700 (2)
F13-375C36S (2)
PR-07172 (1)
PR-02547-L (1)
F11-250C10S (4)
PR-02527-1-L (1)
PR-02520-1-L (1)
F12-250C20S (2)
F11-190F12S (6)
PM-00262 (3)
F01-190S (3)
PR-02537 (1)
PR-02565-L (1)
PR-02528 (2)
PR-02555 (1)
PM-00140 (4)
PR-02543 (8)
F10-190F12S (16)
PR-02548 (1)
PM-00184 (2)
PM-00700-PLA (1)
PR-02522-1-L (1)
F11-164C08S (4)
F11-112C08S (4)
PR-06315 (2)
P31-00009 (2)
PR-02568 (1)
PR-02567-L (1)
F11-112C04S (4)
P12-00111 (2)
F11-190F04S (23)
PR-02526-1-L (1)

13.0: KR-5050-16-SG4-LR

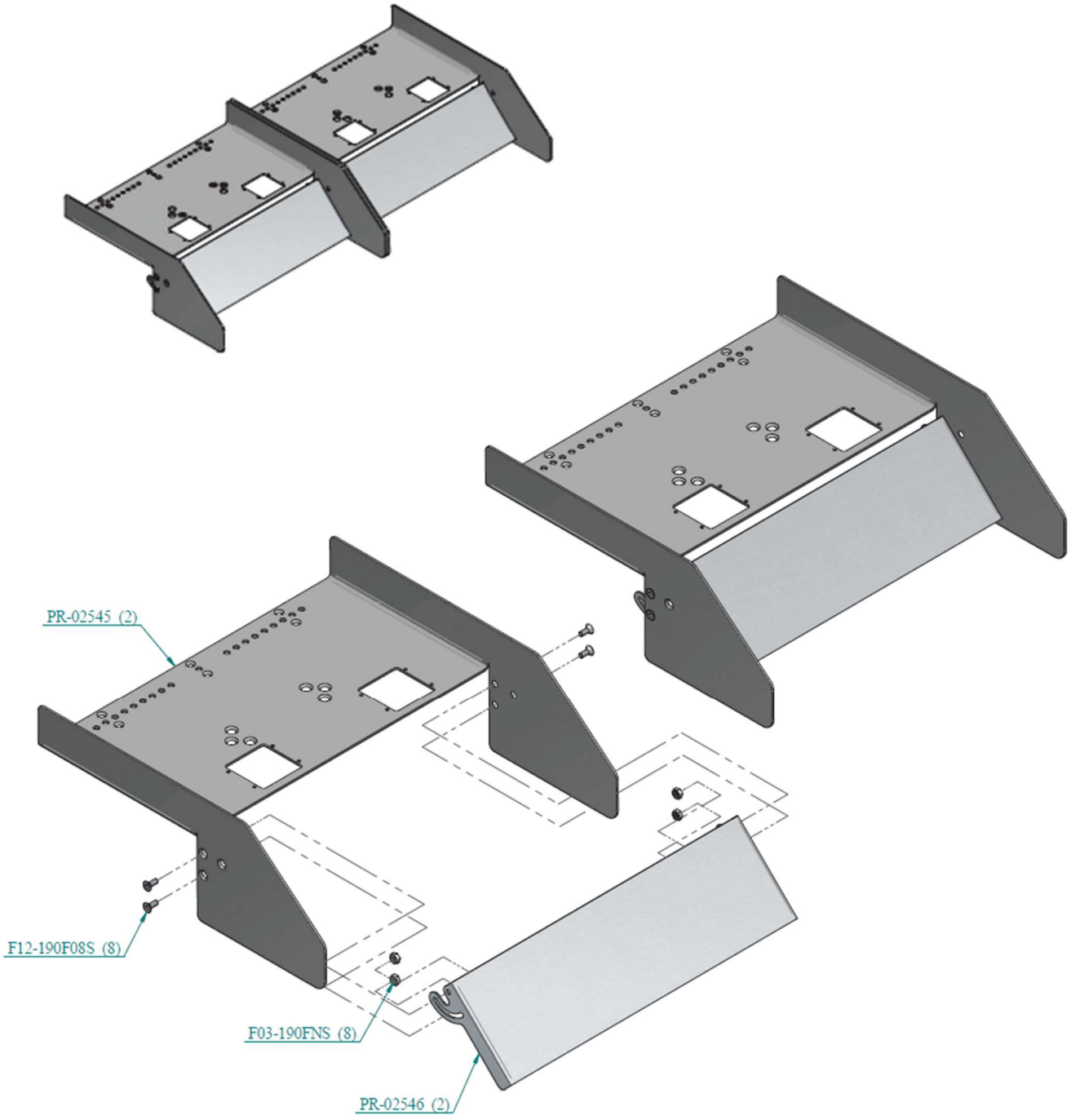
Please, make sure to select the correct parts list. LR stand for **Left machine**, **right conveyor**. If your machine is a RL, this parts list is good by exchanging all the L by R and vis-versa in the part numbers.



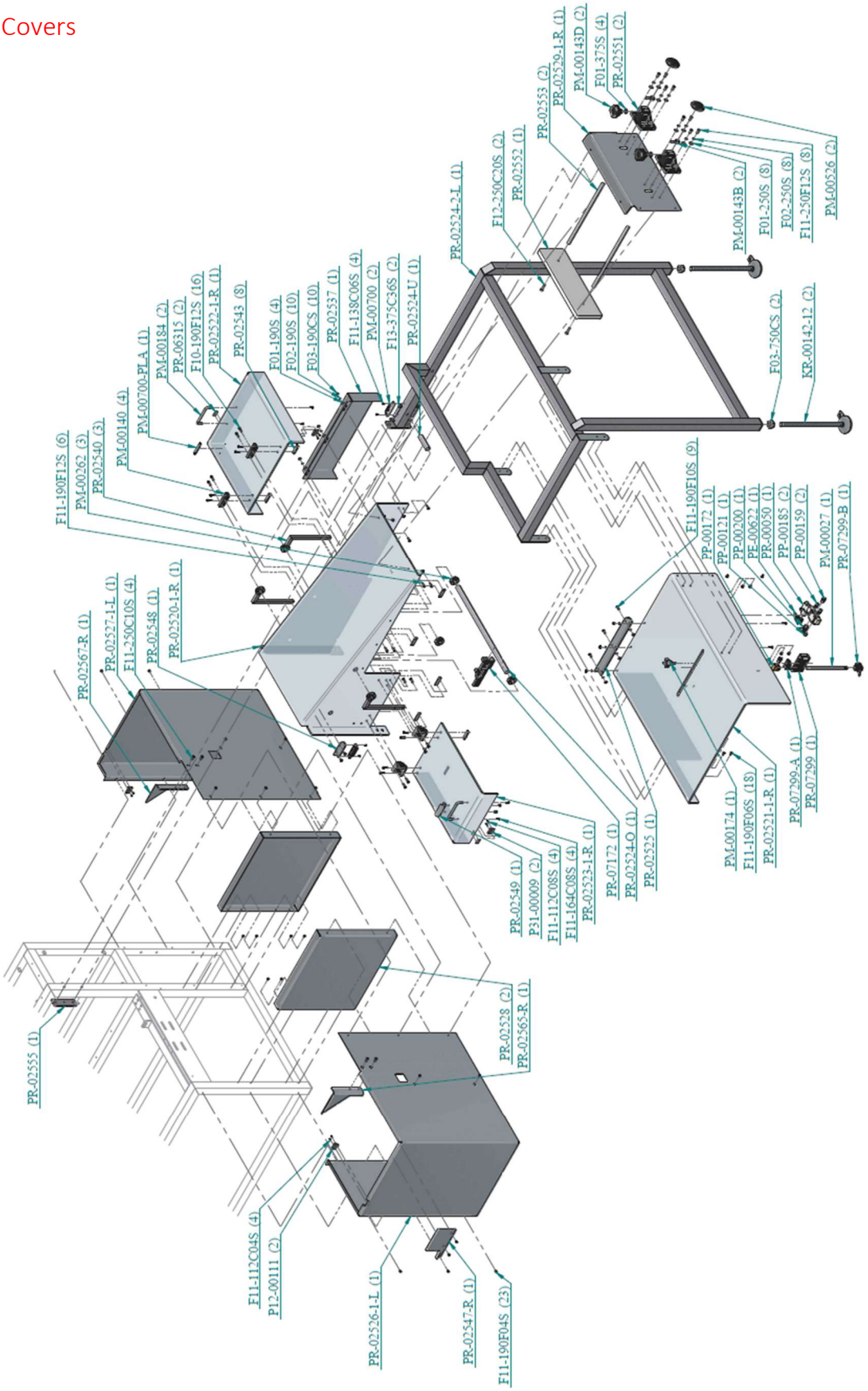
13.1: Full assembly



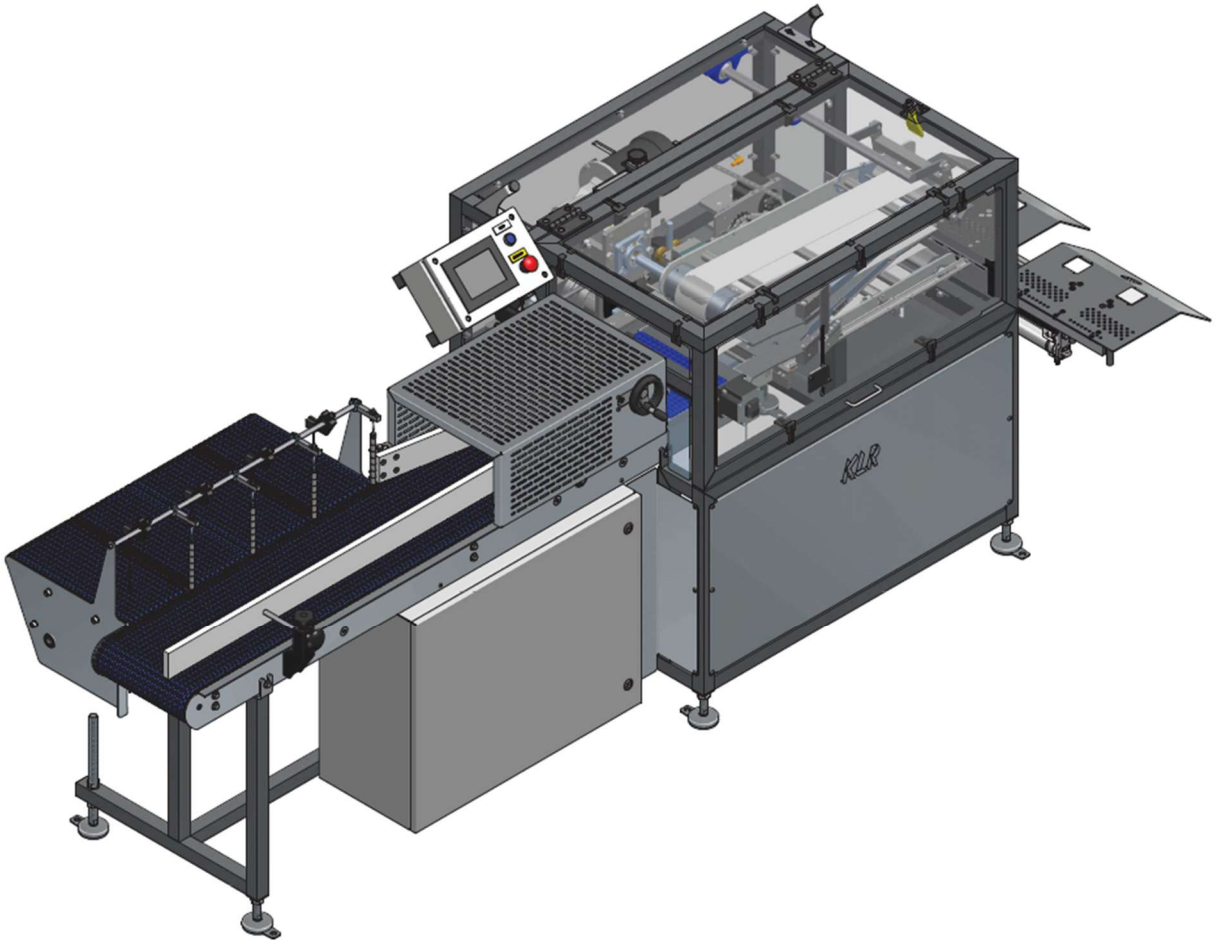
13.2: Bag tables

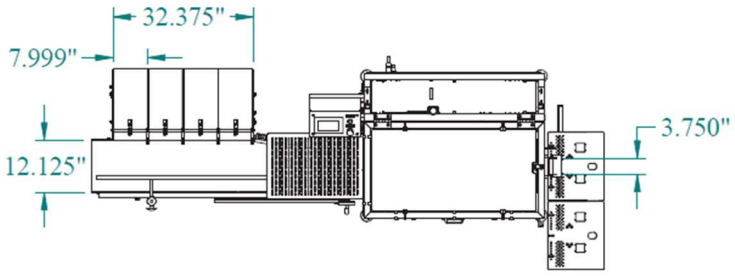


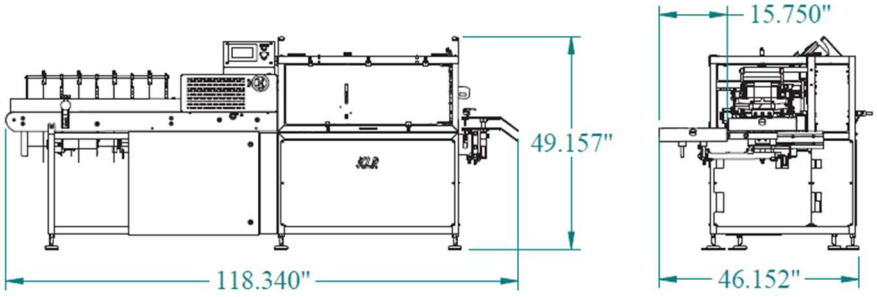
13.3: Covers


PR-02529-1-R (1)
PM-00143D (2)
F01-375S (4)
PR-02551 (2)
PR-02553 (2)
F12-250C20S (2)
PR-02552 (1)
PR-02524-2-L (1)
PM-00143B (2)
F01-250S (8)
F02-250S (8)
F11-250F12S (8)
PM-00526 (2)
F03-750CS (2)
KR-00142-12 (2)
F11-190F10S (9)
PP-00172 (1)
PP-00121 (1)
PP-00200 (1)
PE-00622 (1)
PR-00050 (1)
PP-00185 (2)
PP-00159 (2)
PM-00027 (1)
PR-07299-B (1)
PR-07299-A (1)
PR-07299 (1)
PM-00174 (1)
F11-190F06S (18)
PR-02521-1-R (1)
PR-07172 (1)
PR-02524-O (1)
PR-02525 (1)
PR-02549 (1)
P31-00009 (2)
F11-112C08S (4)
F11-164C08S (4)
PR-02523-1-R (1)
PR-02528 (2)
PR-02565-R (1)
PR-02555 (1)
F11-112C04S (4)
P12-00111 (2)
PR-02526-1-L (1)
PR-02547-R (1)
F11-190F04S (23)
F11-190F12S (6)
PM-00262 (3)
PR-02540 (3)
PM-00140 (4)
PM-00700-PLA (1)
PM-00184 (2)
PR-06315 (2)
F10-190F12S (16)
PR-02522-1-R (1)
PR-02543 (8)
F01-190S (4)
F02-190S (10)
F03-190CS (10)
PR-02537 (1)
F11-138C06S (4)
PM-00700 (2)
F13-375C36S (2)
PR-02524-U (1)
PR-02567-R (1)
PR-02527-1-L (1)
F11-250C10S (4)
PR-02548 (1)
PR-02520-1-R (1)

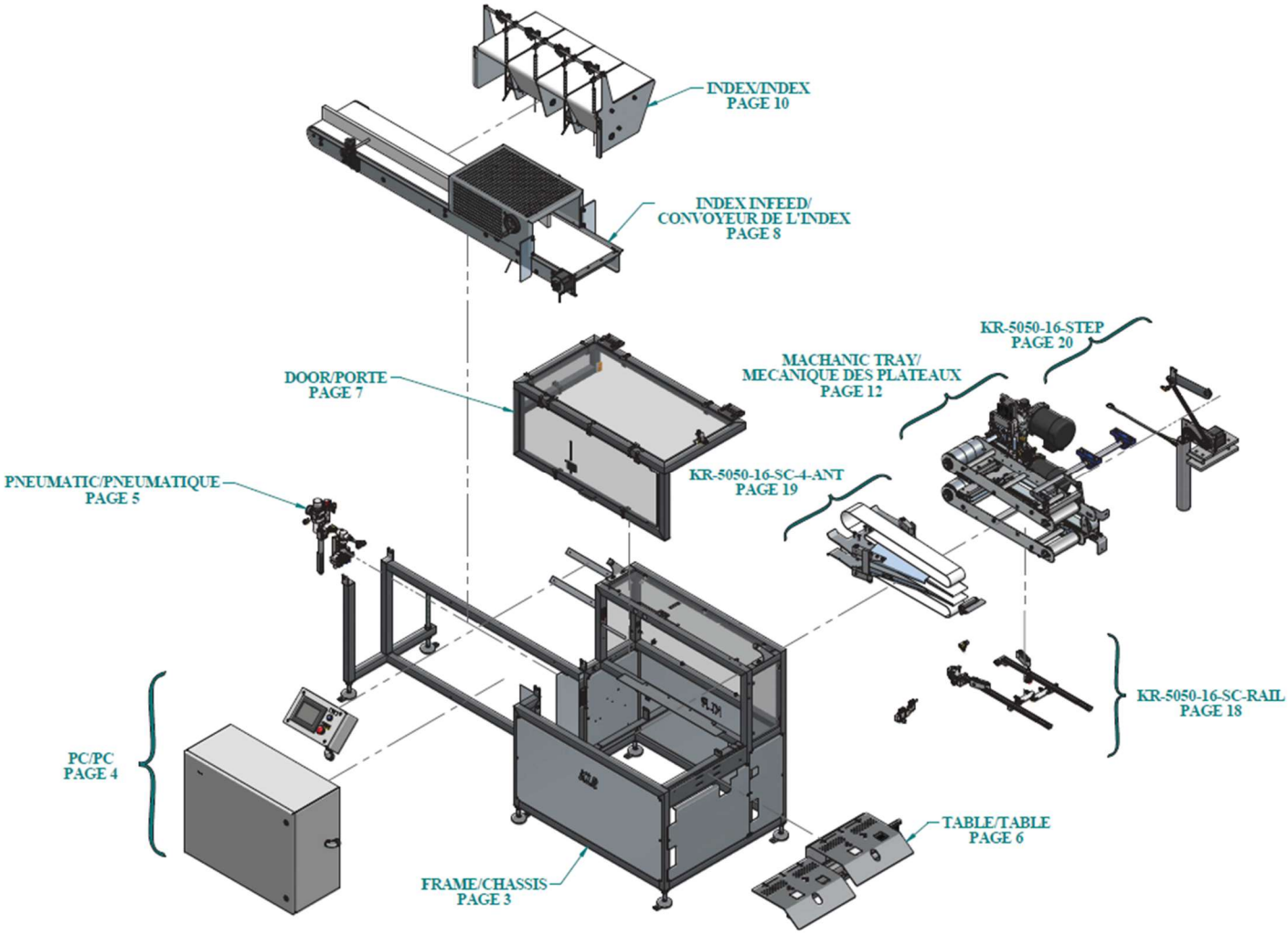
14.0: KLR.5050-16-INDEX (EXPLODED VIEWS)



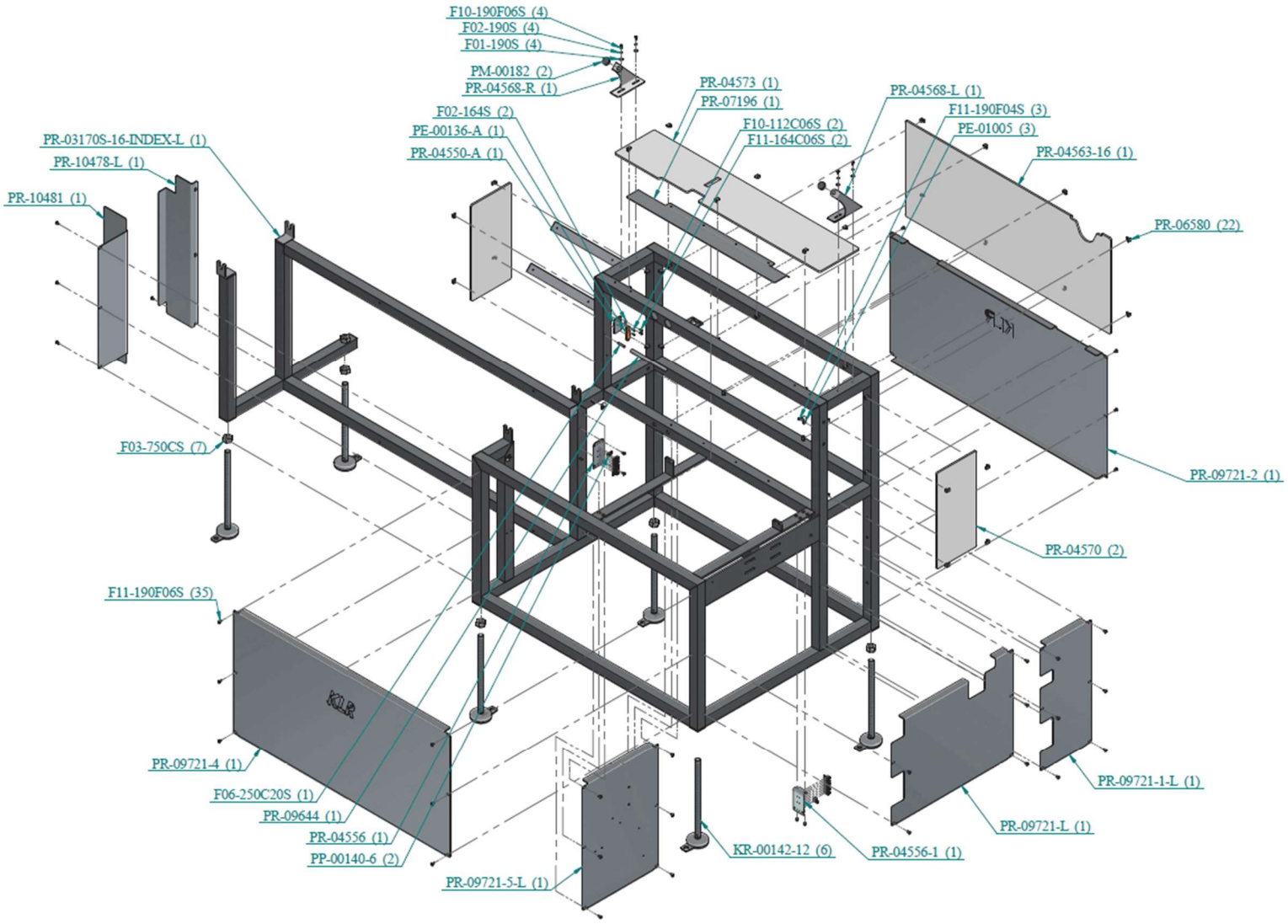




14.1: Modules


INDEX/INDEX
PAGE 10
INDEX INFEED/
CONVOYEUR DE L'INDEX
PAGE 8
KR-5050-16-STEP
PAGE 20
MACHANIC TRAY/
MECANIQUE DES PLATEAUX
PAGE 12
DOOR/PORTE
PAGE 7
KR-5050-16-SC-4-ANT
PAGE 19
PNEUMATIC/PNEUMATIQUE
PAGE 5
KR-5050-16-SC-RAIL
PAGE 18
PC/PC
PAGE 4
TABLE/TABLE
PAGE 6
FRAME/CHASSIS
PAGE 3

14.2: Frame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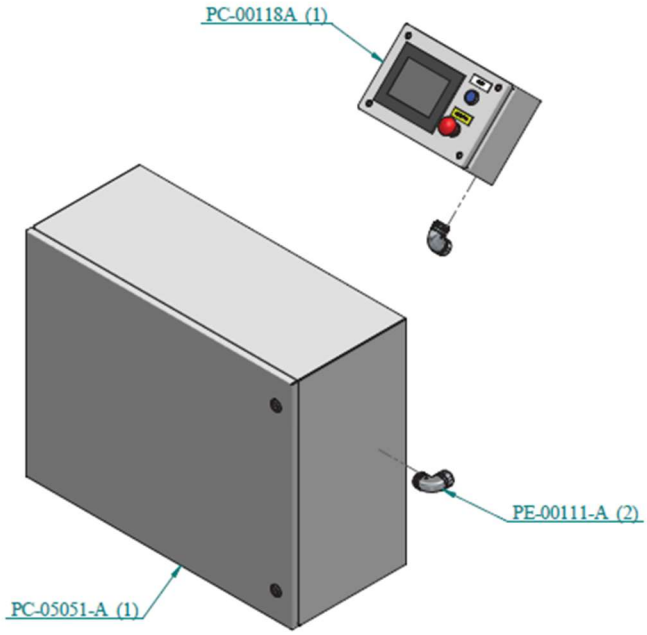
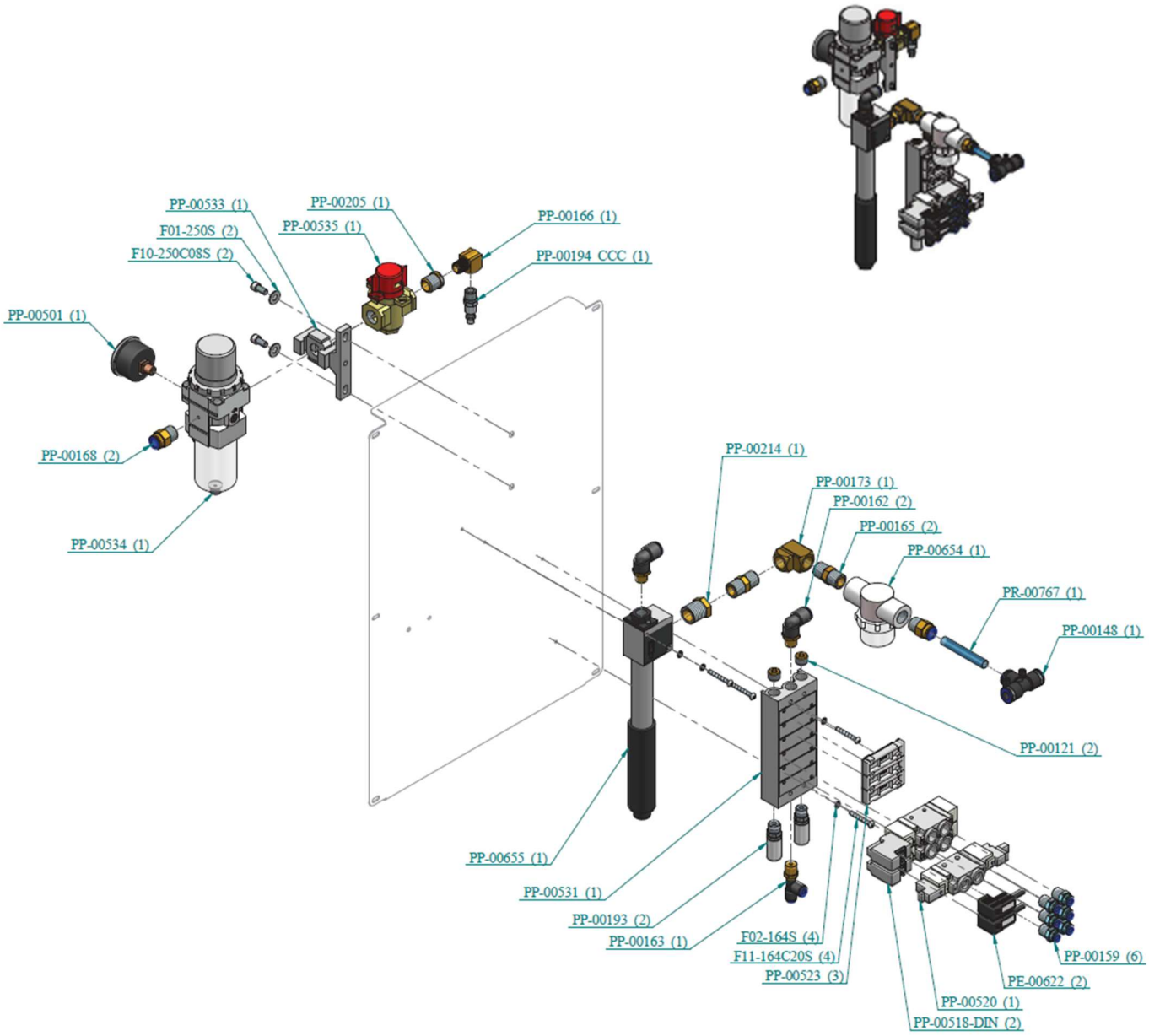
F02-190S (4)
F01-190S (4)
PM-00182 (2)
PR-04568-R (1)
PR-04573 (1)
PR-07196 (1)
PR-04568-L (1)
F11-190F04S (3)
PE-01005 (3)
F02-164S (2)
PE-00136-A (1)
PR-04550-A (1)
F10-112C06S (2)
F11-164C06S (2)
PR-04563-16 (1)
PR-03170S-16-INDEX-L (1)
PR-10478-L (1)
PR-10481 (1)
PR-06580 (22)
F03-750CS (7)
PR-09721-2 (1)
PR-04570 (2)
F11-190F06S (35)
PR-09721-4 (1)
F06-250C20S (1)
PR-09644 (1)
PR-04556 (1)
PP-00140-6 (2)
PR-09721-5-L (1)
KR-00142-12 (6)
PR-04556-1 (1)
PR-09721-L (1)
PR-09721-1-L (1)

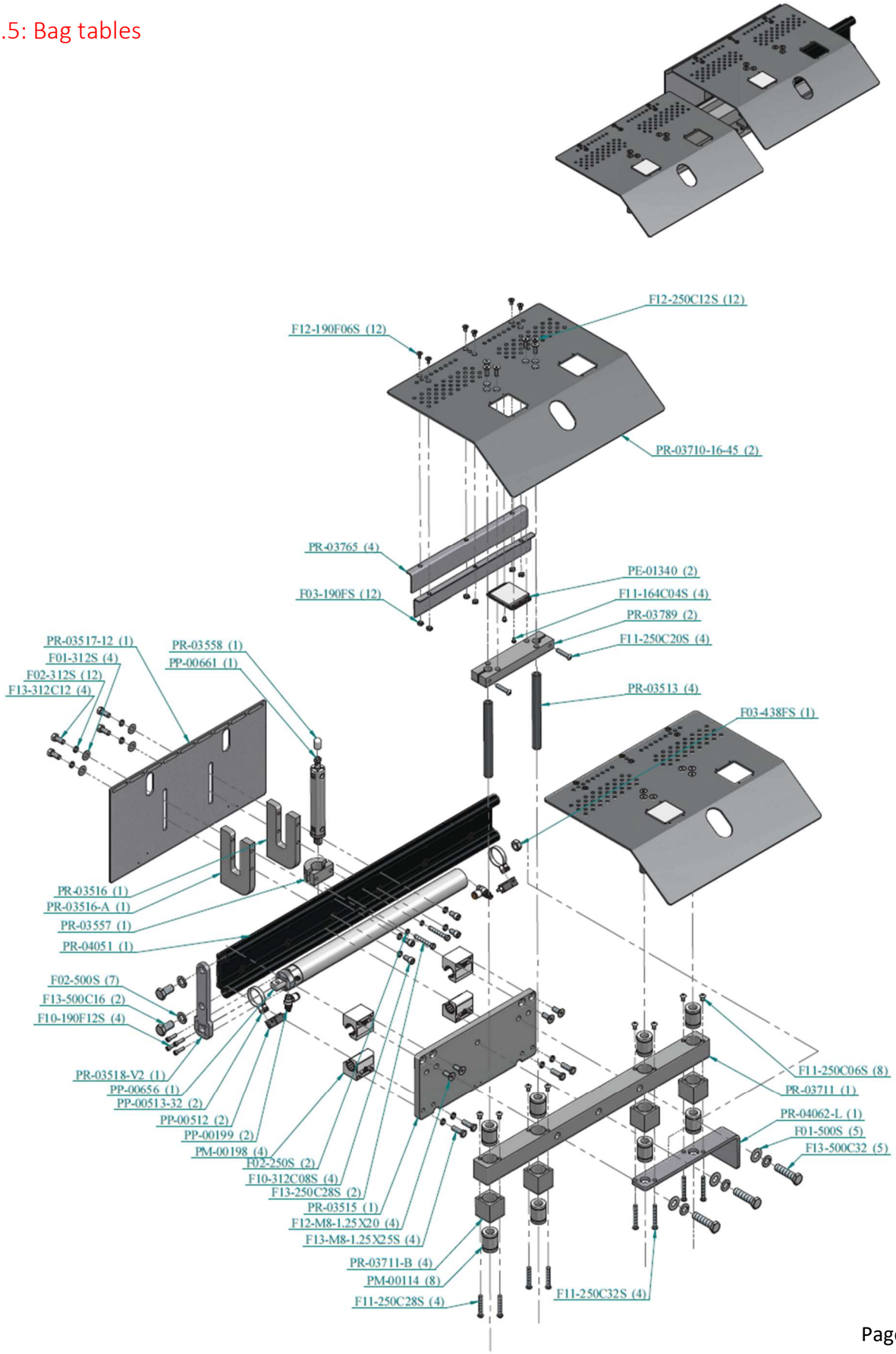
14.3: Control panel and human/machine interface



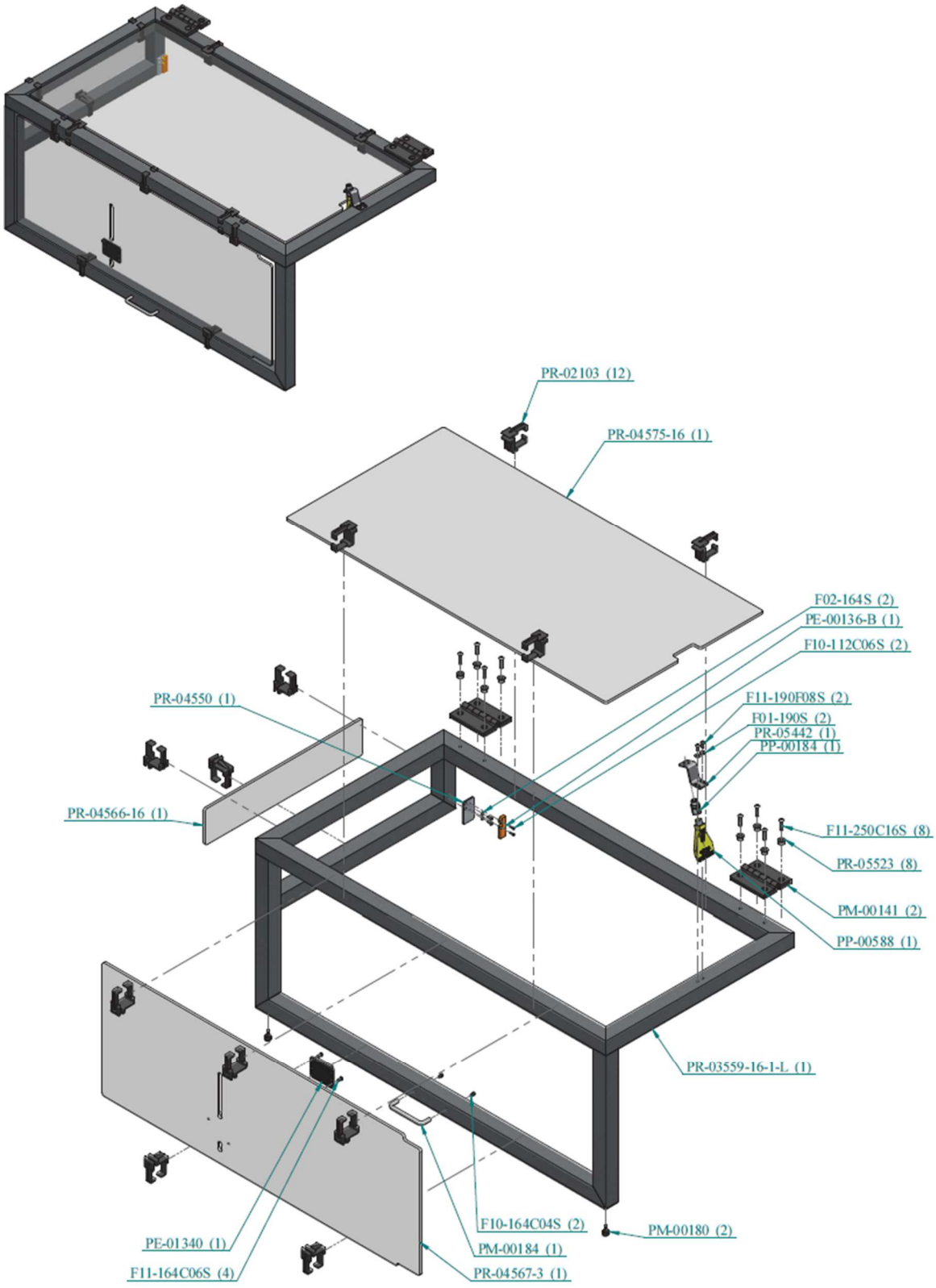
14.4: Pneumatic



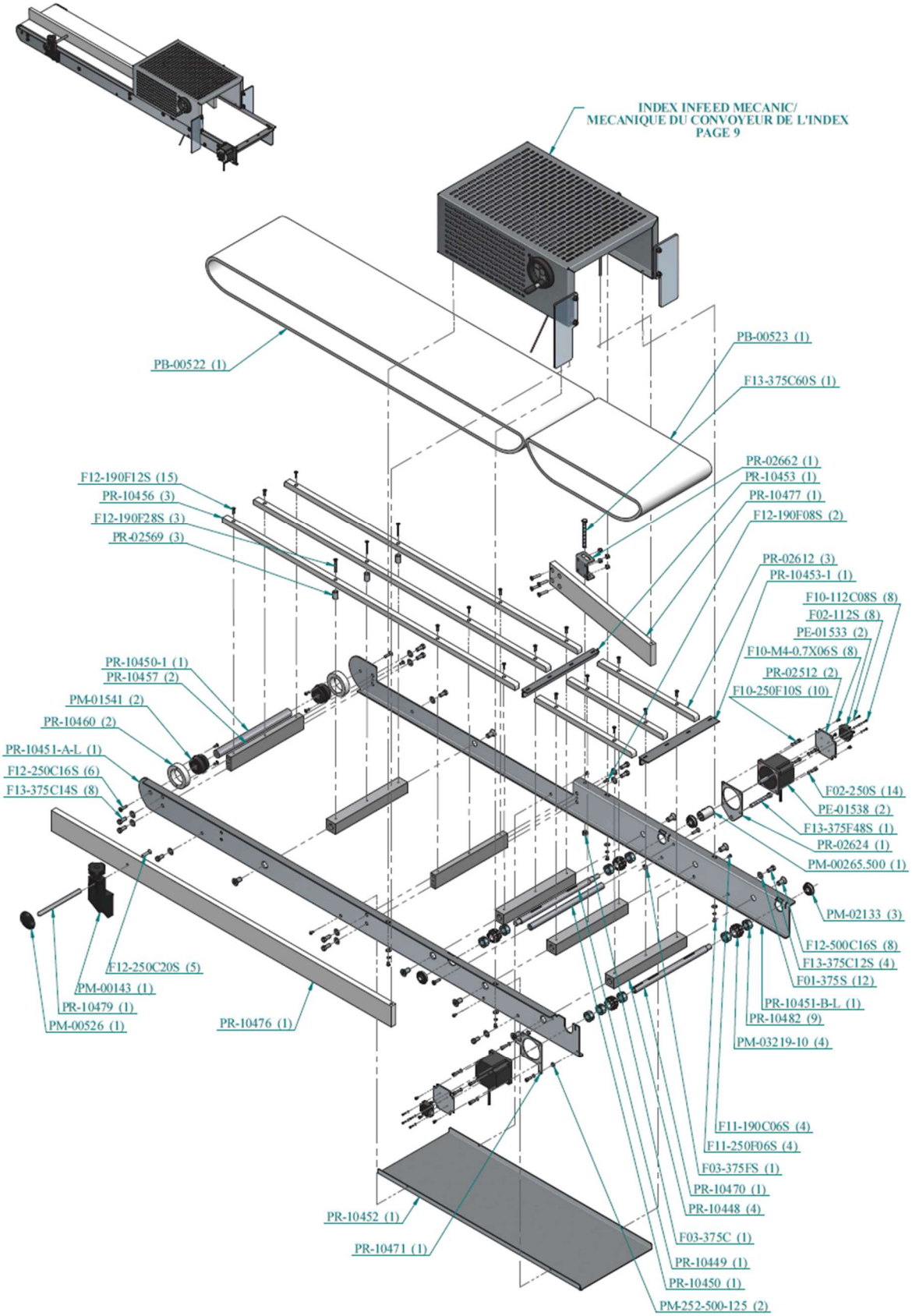
14.5: Bag tables



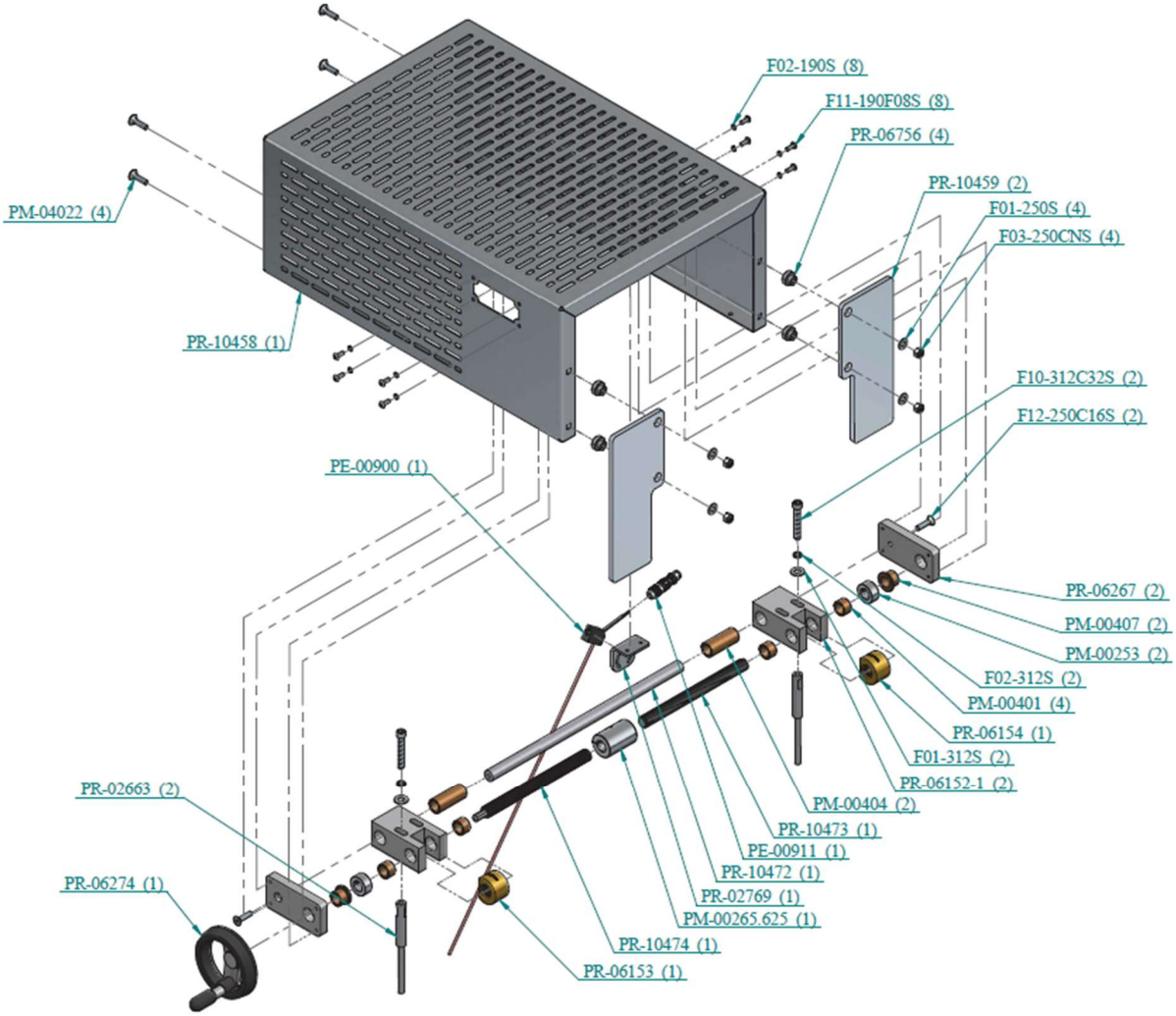
14.6: Safety door



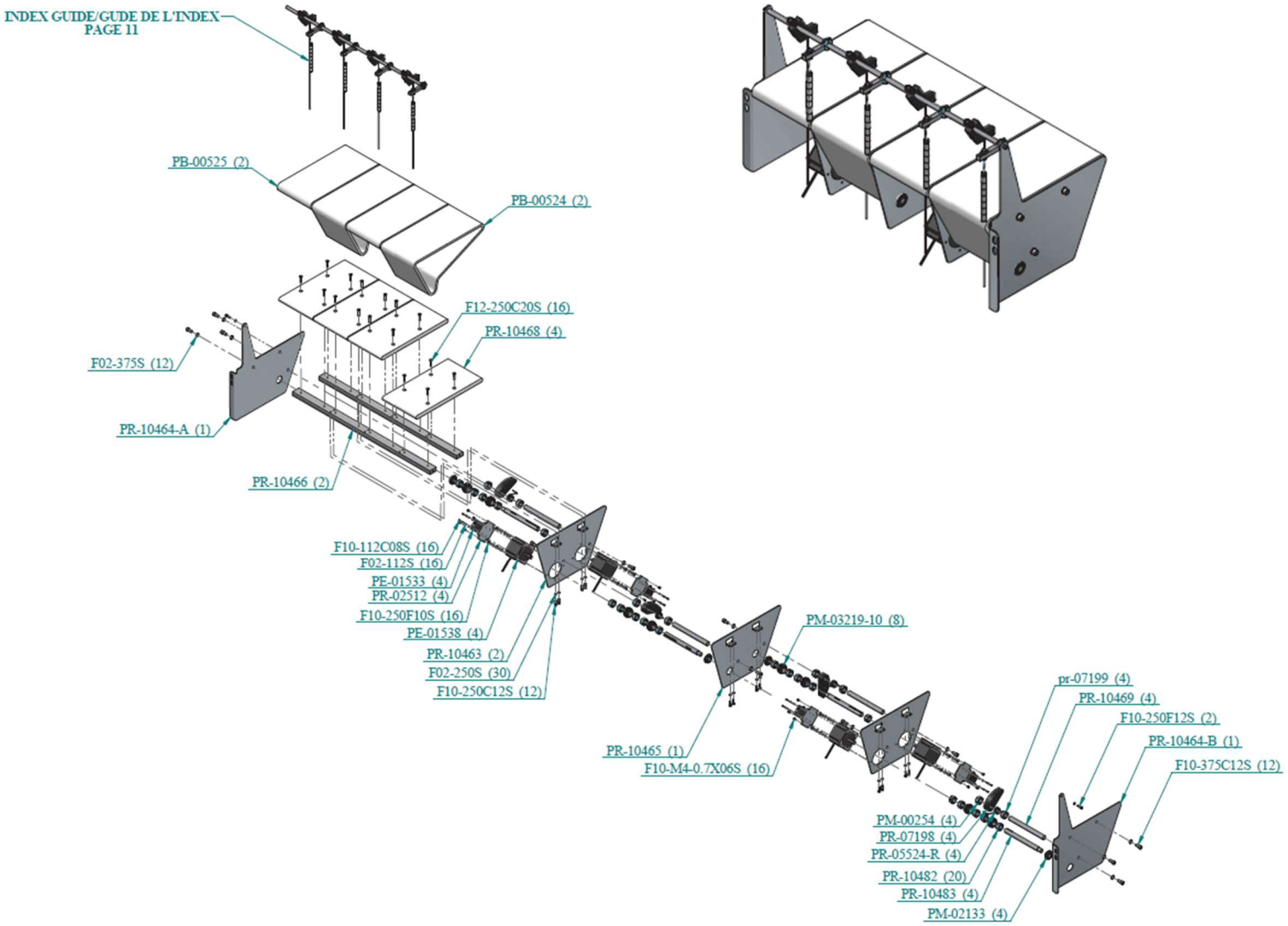
14.7: Index infeed



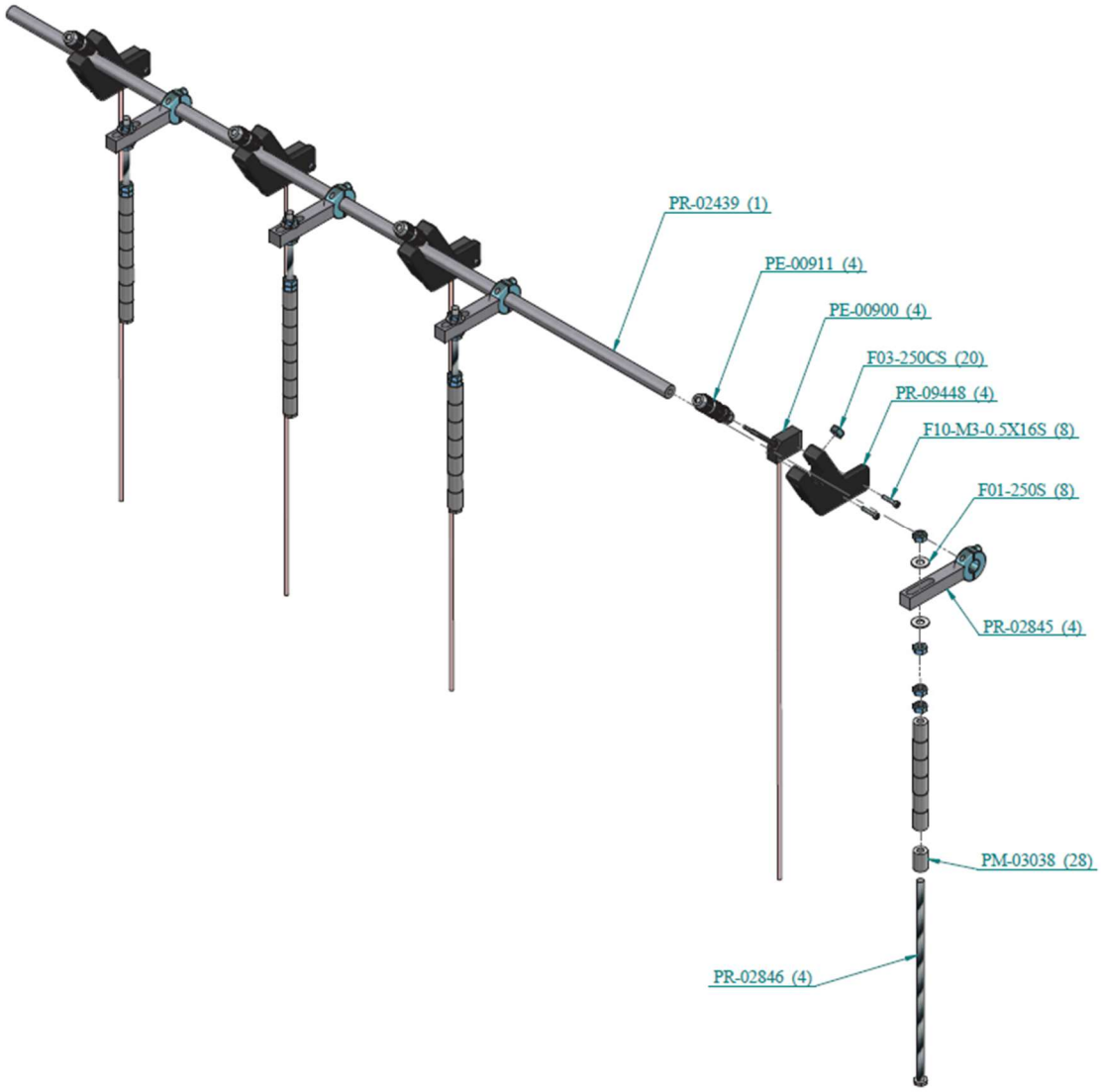
14.8: Tunnel


F02-190S (8)
F11-190F08S (8)
PR-06756 (4)
PR-10459 (2)
F01-250S (4)
F03-250CNS (4)
PM-04022 (4)
PR-10458 (1)
F10-312C32S (2)
F12-250C16S (2)
PE-00900 (1)
PR-06267 (2)
PM-00407 (2)
PM-00253 (2)
F02-312S (2)
PM-00401 (4)
PR-06154 (1)
F01-312S (2)
PR-06152-1 (2)
PR-02663 (2)
PM-00404 (2)
PR-10473 (1)
PE-00911 (1)
PR-10472 (1)
PR-06274 (1)
PR-02769 (1)
PM-00265.625 (1)
PR-10474 (1)
PR-06153 (1)

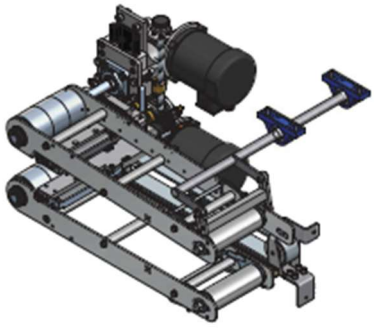
14.9: Indexer

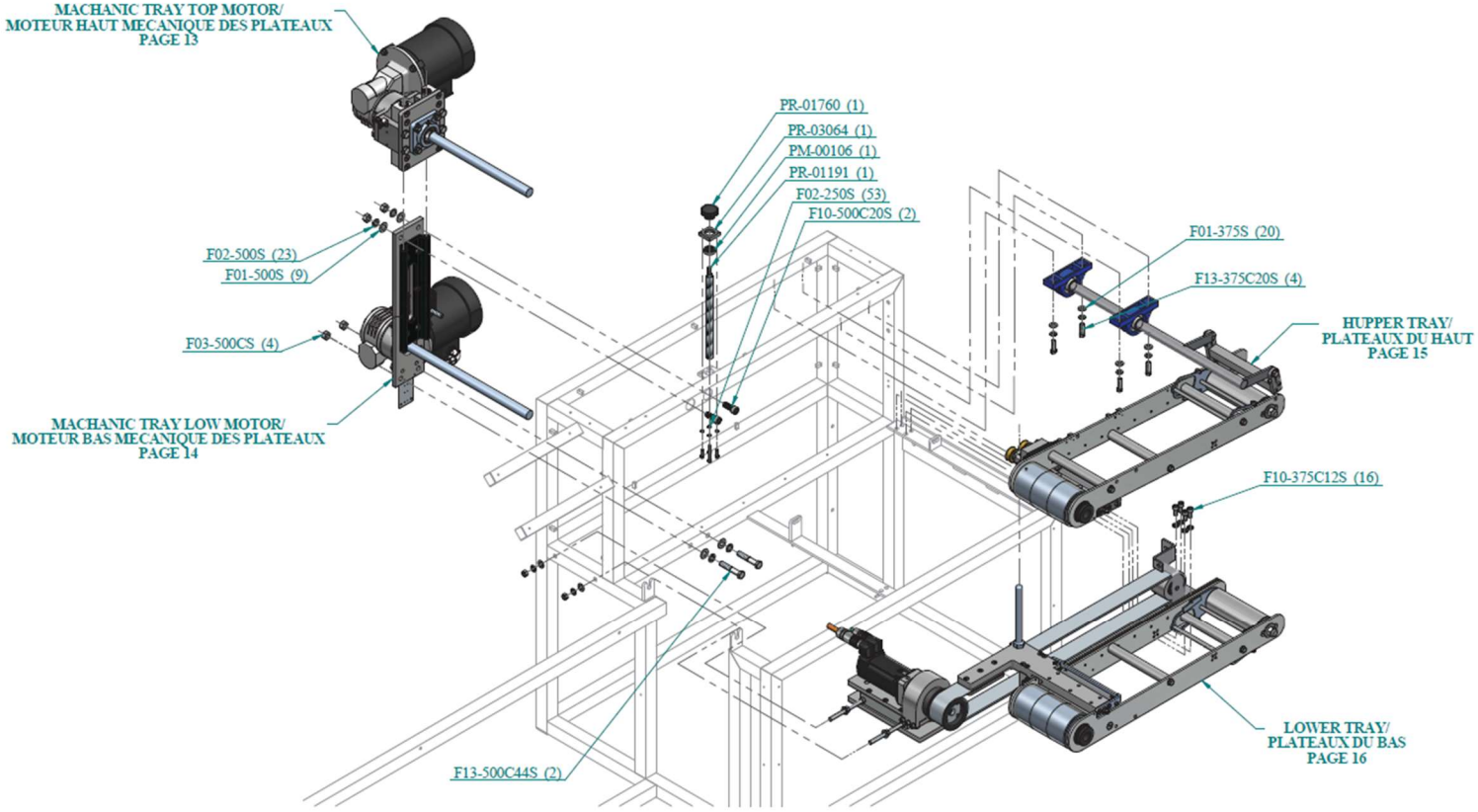

INDEX GUIDE/GUDE DE L'INDEX
PAGE 11
PB-00525 (2)
PB-00524 (2)
F12-250C20S (16)
PR-10468 (4)
F02-375S (12)
PR-10464-A (1)
PR-10466 (2)
F10-112C08S (16)
F02-112S (16)
PE-01533 (4)
PR-02512 (4)
F10-250F10S (16)
PE-01538 (4)
PR-10463 (2)
F02-250S (30)
F10-250C12S (12)
PM-03219-10 (8)
PR-10465 (1)
F10-M4-0.7X06S (16)
pr-07199 (4)
PR-10469 (4)
F10-250F12S (2)
PR-10464-B (1)
F10-375C12S (12)
PM-00254 (4)
PR-07198 (4)
PR-05524-R (4)
PR-10482 (20)
PR-10483 (4)
PM-02133 (4)

14.10: Indexer guide

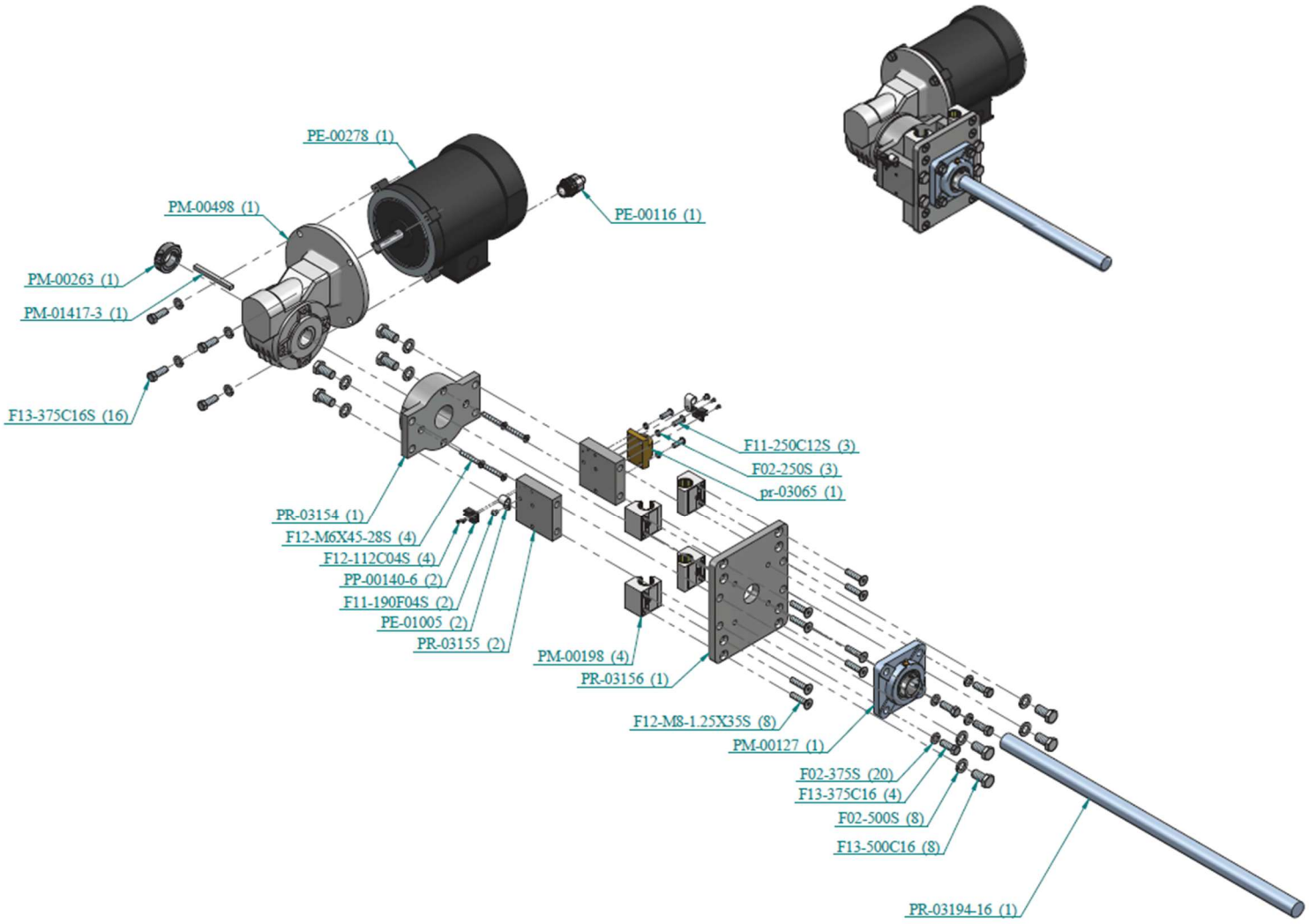


14.11: Mechanic tray

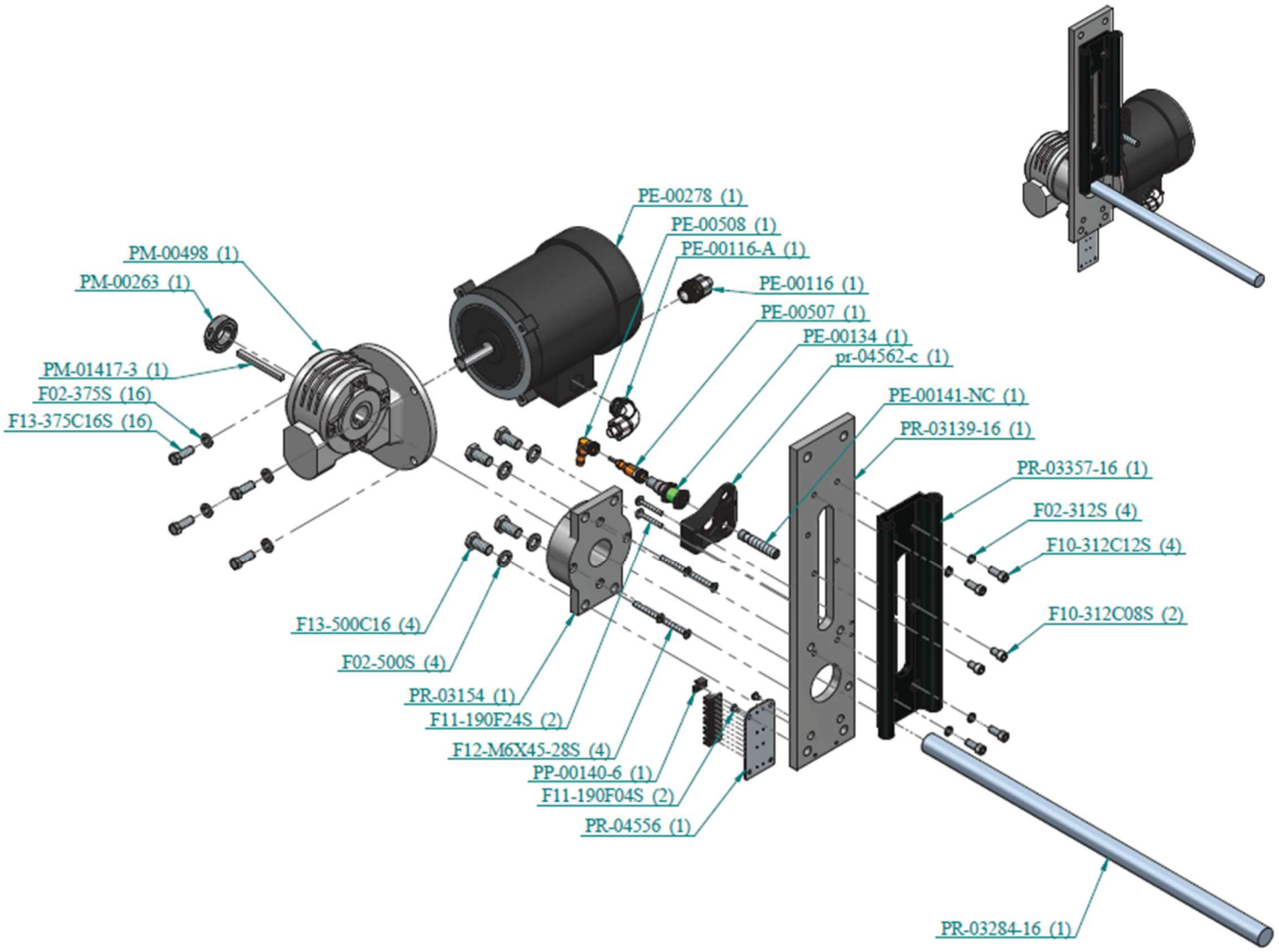




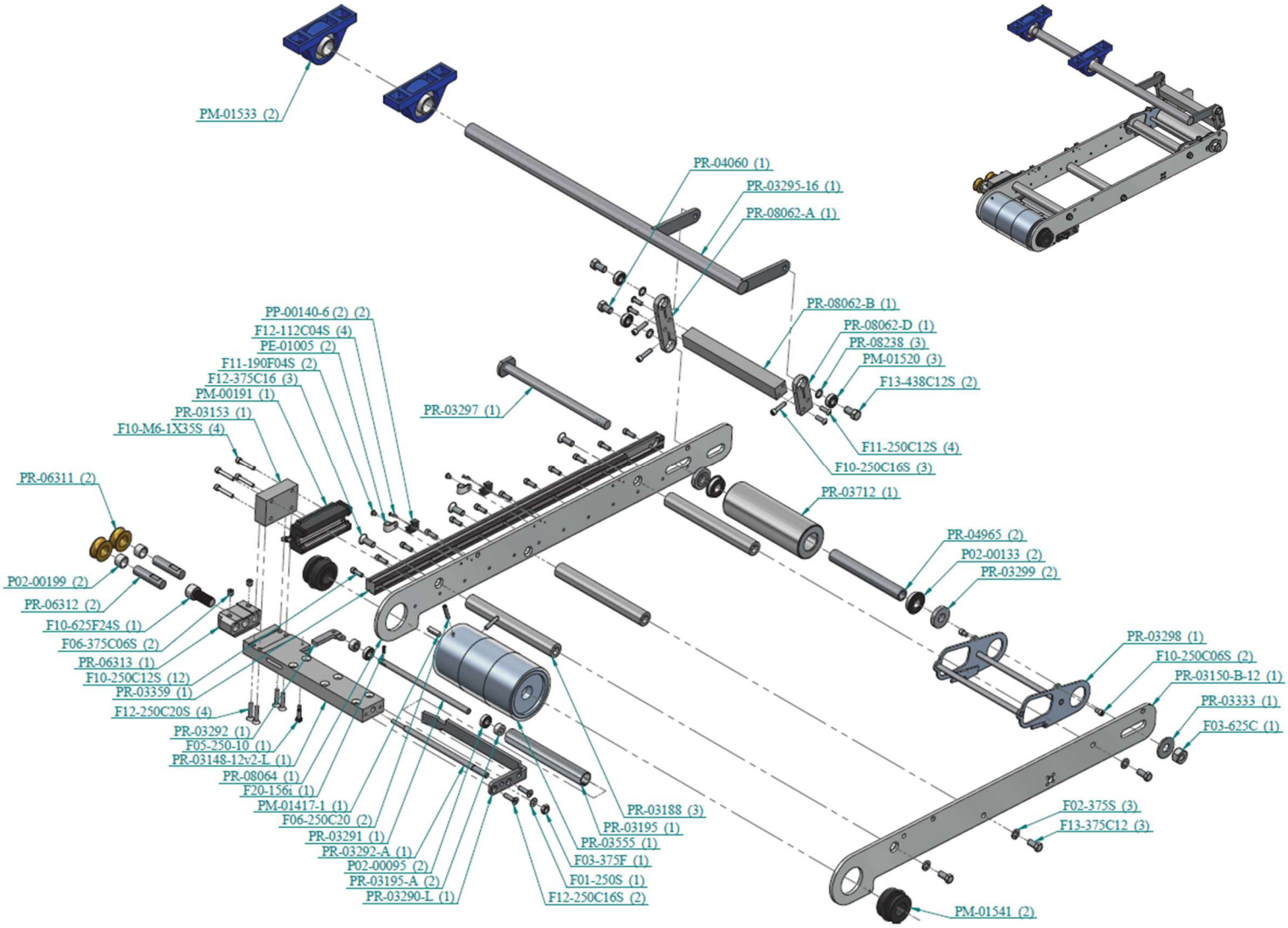
14.12: Mechanic tray top motor



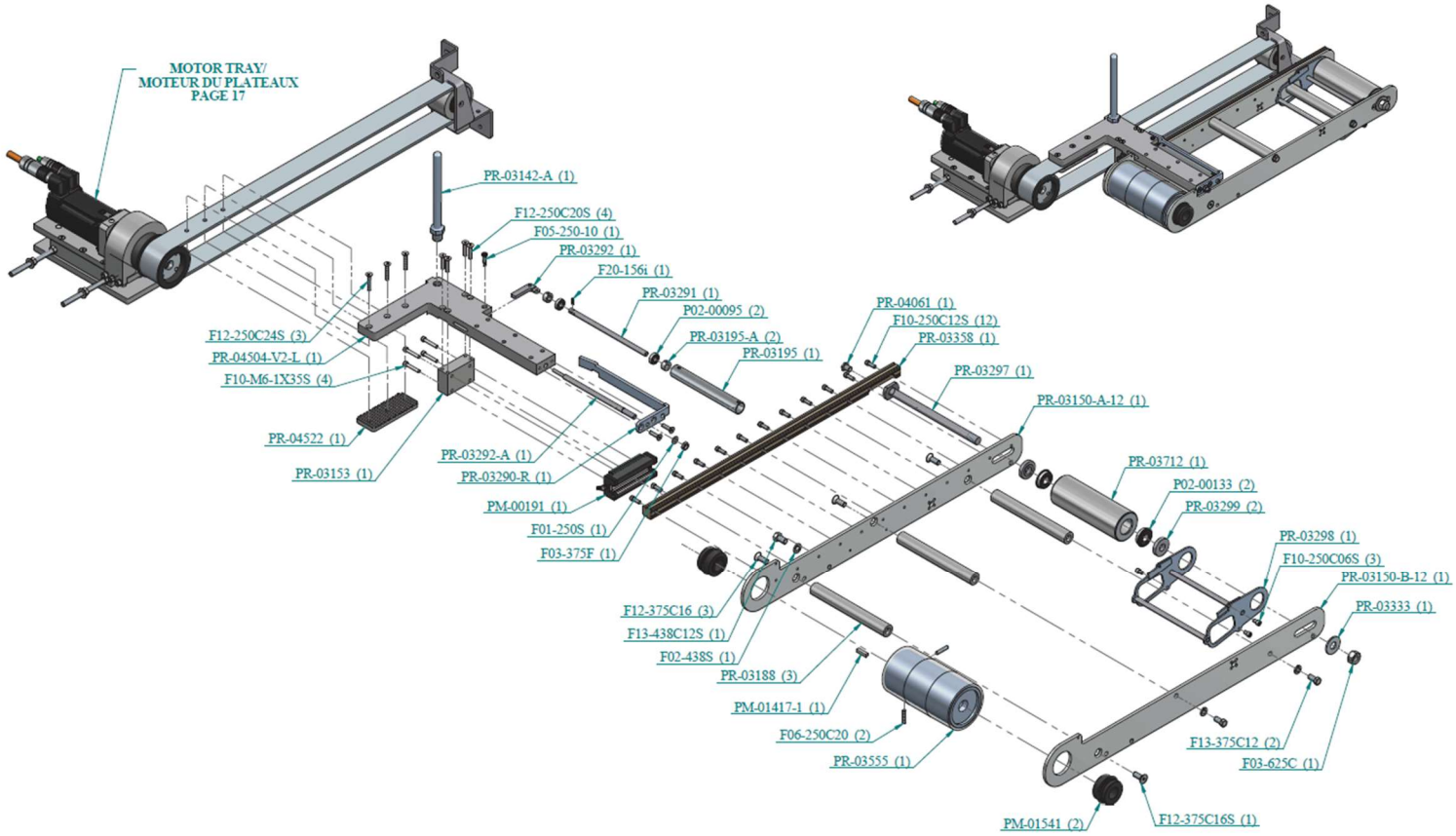
14.13: Mechanic tray lower motor



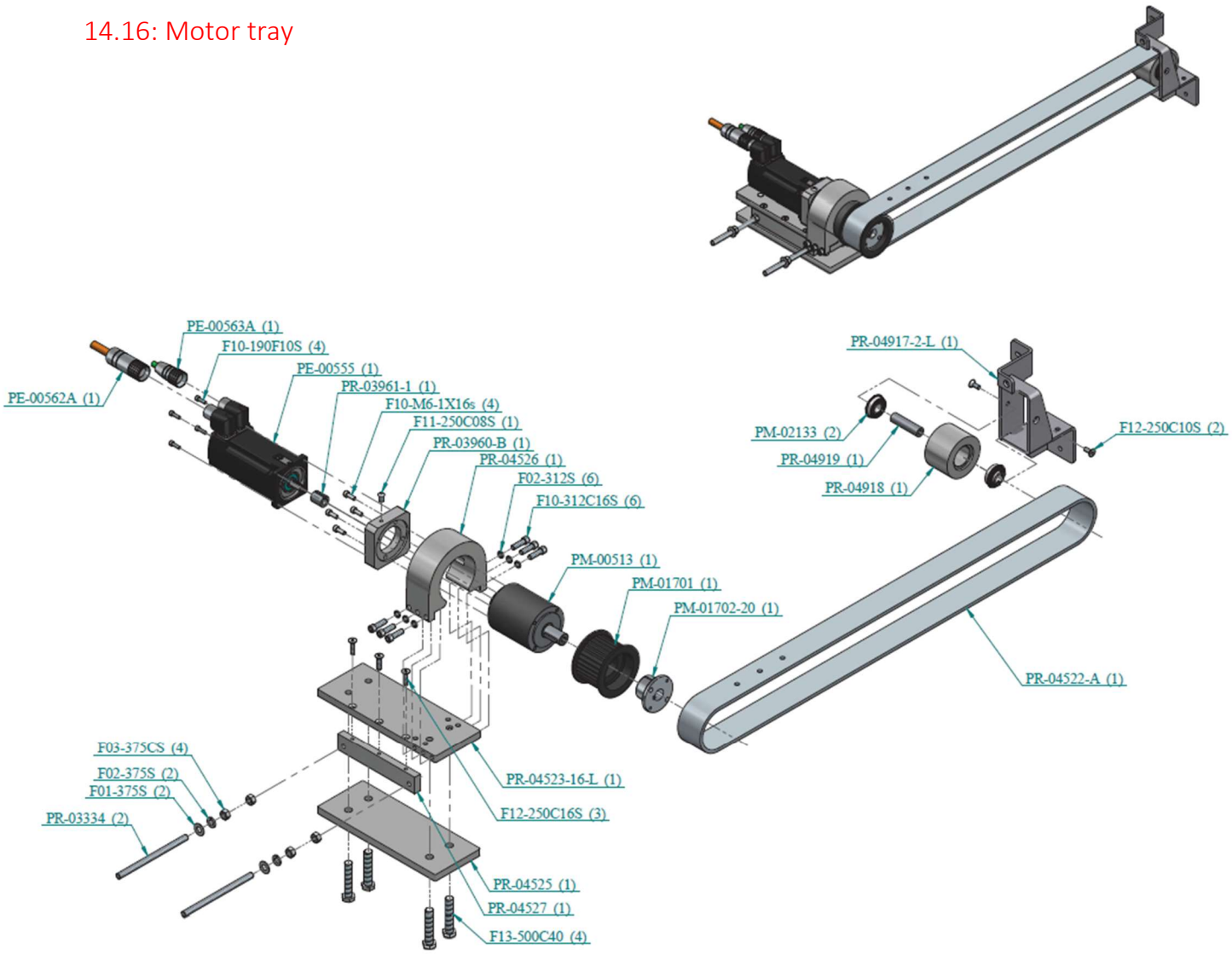
14.14: Upper tray



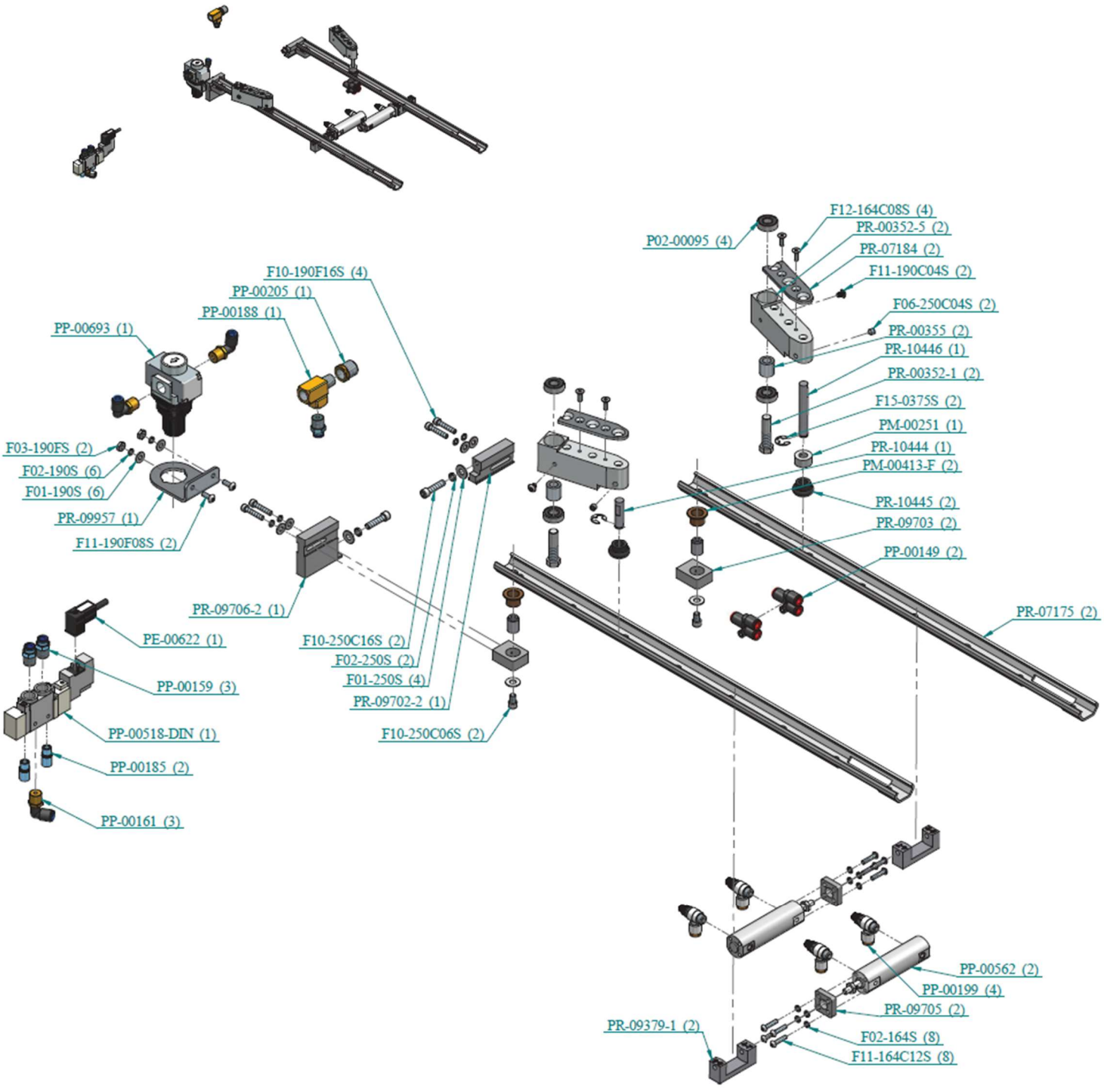
14.15: Lower tray



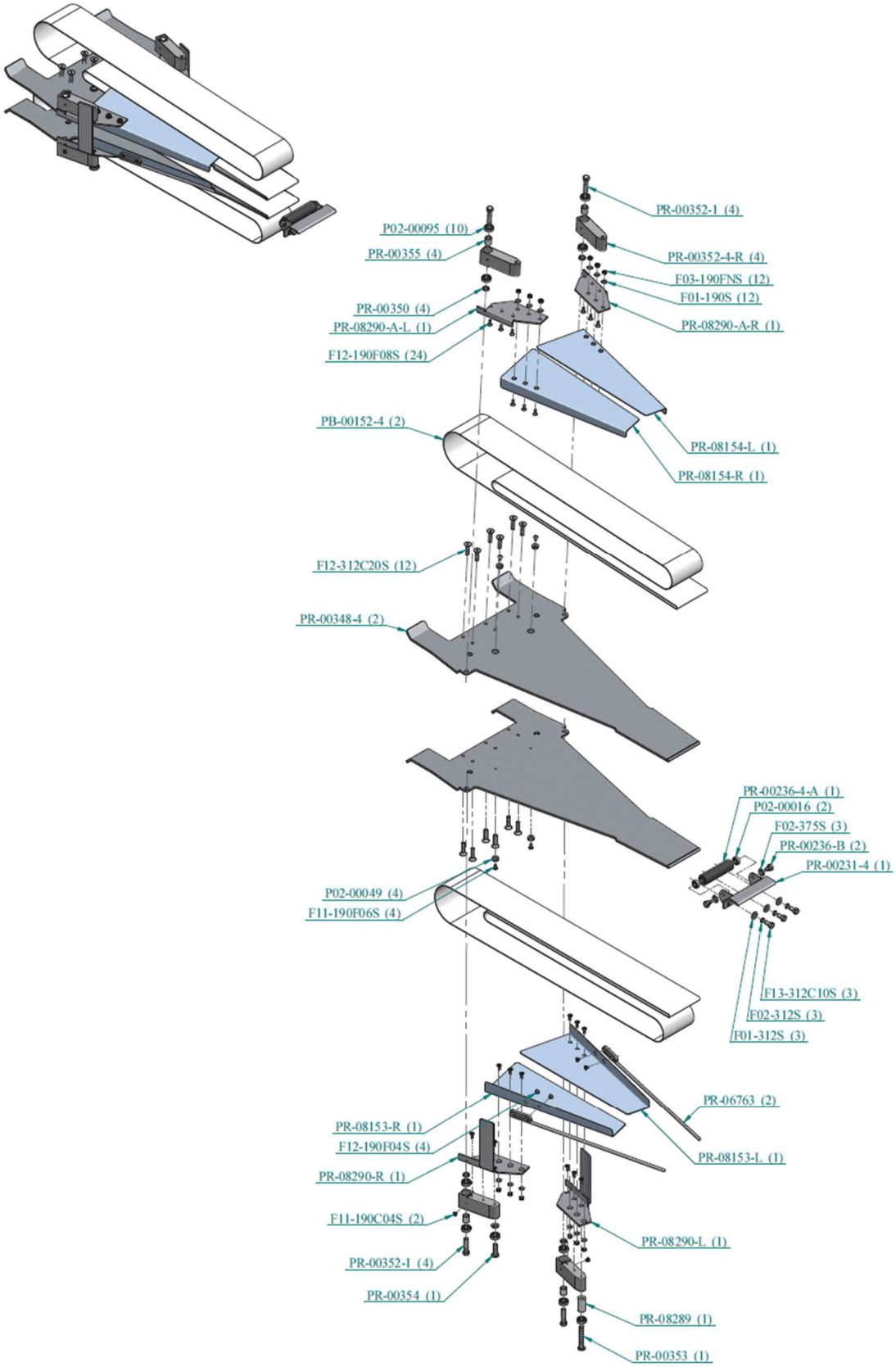
14.16: Motor tray



14.17: KR-5050-16-SC-RAIL



14.18: KR-5050-16-SC-4-ANT



14.19: KR-5050-16-STEP