COMPACT ELECTROPNEUMATIC FIT ROLLERSHUTTER

OPERATION, MAINTENANCE AND TROUBLESHOOTING MANUAL

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INTRODUCTION

For regulatory purposes, roller shutter doors are considered machines.

Before use, please read these instructions carefully and observe all warnings and notes.

This document does not take into account evolutions or modifications that qualified fitters may make when incorporating after-sales equipment.

This document, drawn up for the assembly of the door, demonstrates that, when designing the machine and within the limits of its technical possibilities, CHEREAU has integrated safety at the design stage by complying with the essential safety requirements of the Machinery Directive (EC Directive 2006-42).

CHEREAU issues a CE declaration of conformity with every roller shutter door.

This declaration of conformity demonstrates that CHEREAU has complied with the essential safety requirements of the Machinery Directive (EC Directive 2006-42).

The operator or user of the door must :

- Observe recommendations for use, maintenance and troubleshooting,
- Periodically check that your machine is in good working order,
- Comply with the regulatory obligations defined by ministerial decrees, notably concerning the periodic checking of doors,
- Train staff in door safety and use,
- Set up a work organization and appropriate resources
- Keeping the machine in conformity

For further information, please contact your CHEREAU representative.

GENERAL SAFETY INSTRUCTIONS FOR ASSEMBLY, OPERATION, MAINTENANCE AND REPAIR.

Caution: the precautions and instructions in this document MUST be observed when using, maintaining and repairing rollershutter doors.

To ensure the safety of technical personnel and any other persons who may be present, maintenance and repair work may only be carried out by qualified and authorized personnel who have been trained for this purpose, who know and understand the instructions, and who are familiar with safety aspects.

Negligence can greatly threaten the safety of technical personnel and third parties, and can cause injury or death.

Accidents that occur during equipment use or maintenance operations are often caused by failure to observe safety instructions.

The operator must be of legal age and must supervise his working environment during the opening and closing operation.

The operator must comply with the maintenance protocol and recommendations in the user manual.

The operator must wear suitable personal protective equipment (PPE) during installation, operation, servicing and maintenance.

The operator must ensure that the area is completely clear, so as not to block or interfere with raising and lowering operations.

It is imperative that the operator remains outside the area of door movement when opening and/or closing the rollershutter.

The operator must maintain visual control of the work area at all times, and carefully observe all movements when opening and closing the door.

The operator must inform CHEREAU of any anomalies and/or malfunctions.

We strongly advise against moving the vehicle with your door open.

It is imperative to follow the maintenance protocol and recommendations in the user manual.

ATTENTION

CHEREAU accepts no responsibility for personal injury, death or property damage resulting from misuse of the rollershutter door.

CHEREAU accepts no responsibility for personal injury, death or property damage resulting from the use of aftermarket replacement parts or parts not supplied by the original equipment manufacturer when servicing or repairing rollershutter doors.

CHEREAU accepts no responsibility for personal injury, death, or property damage resulting from the use of a rollershutter door modified from its original design without express written approval.

There are no warranties, express or implied, including warranties of merchantability or fitness for a particular purpose beyond those stated.

GENERAL SAFETY INSTRUCTIONS AND GUIDELINES

Appropriate personal protective equipment (PPE): Safety shoes with steel toe protection. Protective gloves. Safety goggles with side protection, or with shield. Ear plugs. Work clothing must be appropriate. Loose clothing that can be caught by moving parts is prohibited. Helmet recommended.	
Avoid wearing rings, bracelets, necklaces, watches, etc. that could be caught in the moving parts of the rollershutter door.	
Always choose the right tool for the job. Replace worn or damaged tools.	
Risk of injury when using your rollershutter door. Crushing of hands and feet. Body crushing - Moving parts. Skidding. Stumbling. Fall. Electric. If in doubt, don't hesitate to contact us for further help and advice.	

GENERAL

Never use the door without prior training.

For your rollershutter system to function optimally, the door and system must always be in good condition.

Before each use:

Check that the door is in good condition. If not, replace defective parts immediately.

Check that the rails are in good condition.

Check that the rear frame is in good condition.

Make sure there are no objects or obstacles in the door's path.

If your door is equipped with a locking or sealing system, make sure it's unlocked.

During use:

Check the general condition of the rollershutter system.

Check that the door moves smoothly up and down. If this is not the case, an overhaul is required. This operation must be carried out as soon as possible. It must be carried out by a professional.

After use or when moving the vehicle:

Make sure the door is completely closed. Never park the vehicle with the door open. Never drive with the door open.

RECOMMENDATIONS

Do not work on the system without training.

Prior to any work on electro-pneumatic controls, disconnect the power supply.

Check the system every 800 cycles. If necessary, immediately replace defective or missing parts with original ones. Please note that replacing parts requires special skills: call in a specially trained person.

The system should be cleaned regularly using a slightly damp cloth. Do not use volatile substances, as they may cause a fire due to static electricity.

Refer to maintenance and preventive maintenance documents.

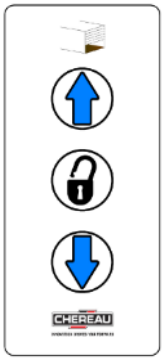
Caution risk of injury: Do not place fingers on the actuator or in the door tracks.

INSTRUCTION MANUAL

1. Prerequisites

The rollershutter must be supplied with air at between 4.5 and 7 bar, and electricity (12 or 24 volts depending on vehicle type). The control box is located in the right-hand rear overhang of the vehicle.

2. Use



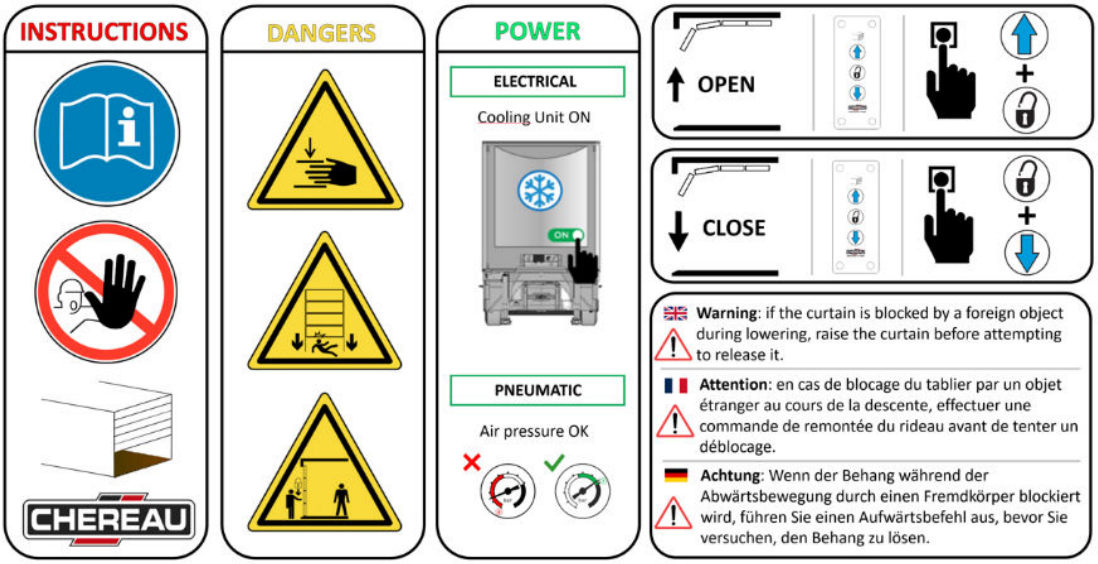
To open the rollershutter, simultaneously press the "padlock" button and the "up arrow" button
This is an impulse mode: when the rollershutter begins to move, the buttons can be released.

To close the rollershutter, hold down the "padlock" button and the "down arrow" button.

To guarantee safety, the closing mode is maintained, so you must hold the control until the end of the closing cycle (immobilization of the door leaf against the rear sill).

3. Precautions

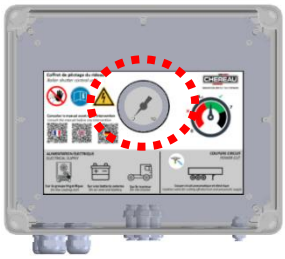
Caution: risk of pinching between sill and rollershutter when closing. Nothing must be in the closing area while the rollershutter is being operated.



⚠ Caution: in the event of severe damage to the mechanical or control parts, the rollershutter must be checked by a qualified service technician to ensure safe operation.

QUICK TROUBLESHOOTING MANUAL

4. Pneumatic pressure check



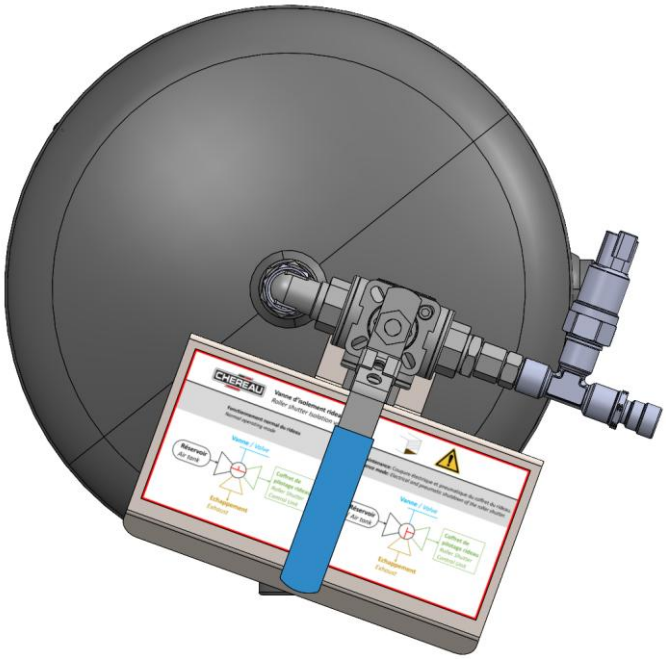
If the rollershutter does not open, and there is no action from the solenoid valves in the box (no pneumatic noise), first check that there is **at least 4.5 bar pressure** in the box, using the pressure gauge directly visible on the front panel.

In the event of insufficient pressure, the rollershutter may behave dangerously, and its power supply is therefore cut off by means of a pressure switch connected behind the cut-off valve on the rollershutter's air tank.

In the case of a semi-trailer, the air reservoir is supplied by the brake & suspension reservoirs, via a barrier valve. It is necessary to connect the vehicle to an active pneumatic circuit to recharge all the air tanks in order to operate the rollershutter.

If it is not possible to recharge the vehicle with air, it is still possible to open the rollershutter by manually operating the solenoid valves (see procedure in section 6).

A 3-way energy cut-off valve is located at the outlet of the air tank dedicated to the rollershutter. It is generally accessible behind the right-hand wheel of axle 1.
If this valve is cut off, the reservoir is isolated and the pressure in the cabinet drops to 0 bar, thus cutting off the electrical circuit. For normal operation, the valve must be open.



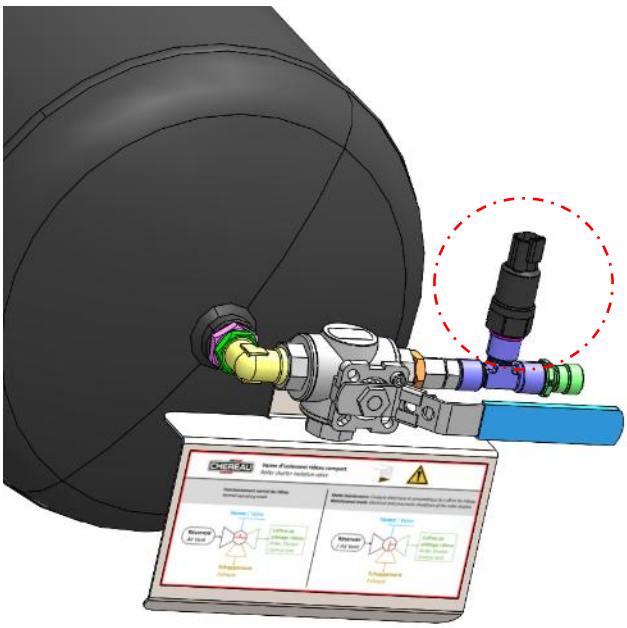
Valve in off position (maintenance)

5. Check rollershutter power supply

5.1. SEMI-TRAILERS & TRAILERS

Without a power supply, the rollershutter cannot operate normally. In most cases, the power supply for the control unit is provided by the refrigeration unit's 12v battery.
In rare cases, it can be supplied via channel 9 directly from the tractor, which requires a 24-volt cabinet, or via auxiliary batteries (cabinet voltage depends on battery type). The box voltage is indicated inside the box on a plate at the bottom.

In the event of insufficient pressure in the air tank, the pressure switch connected to the air tank can cut off the supply circuit (see section 4).



5.2. TRUCKS - RIGIDS

Without a power supply, the rollershutter cannot operate normally. Power is supplied to the cabinet by a switch in the cab, which is powered by the rigid's 24V battery.

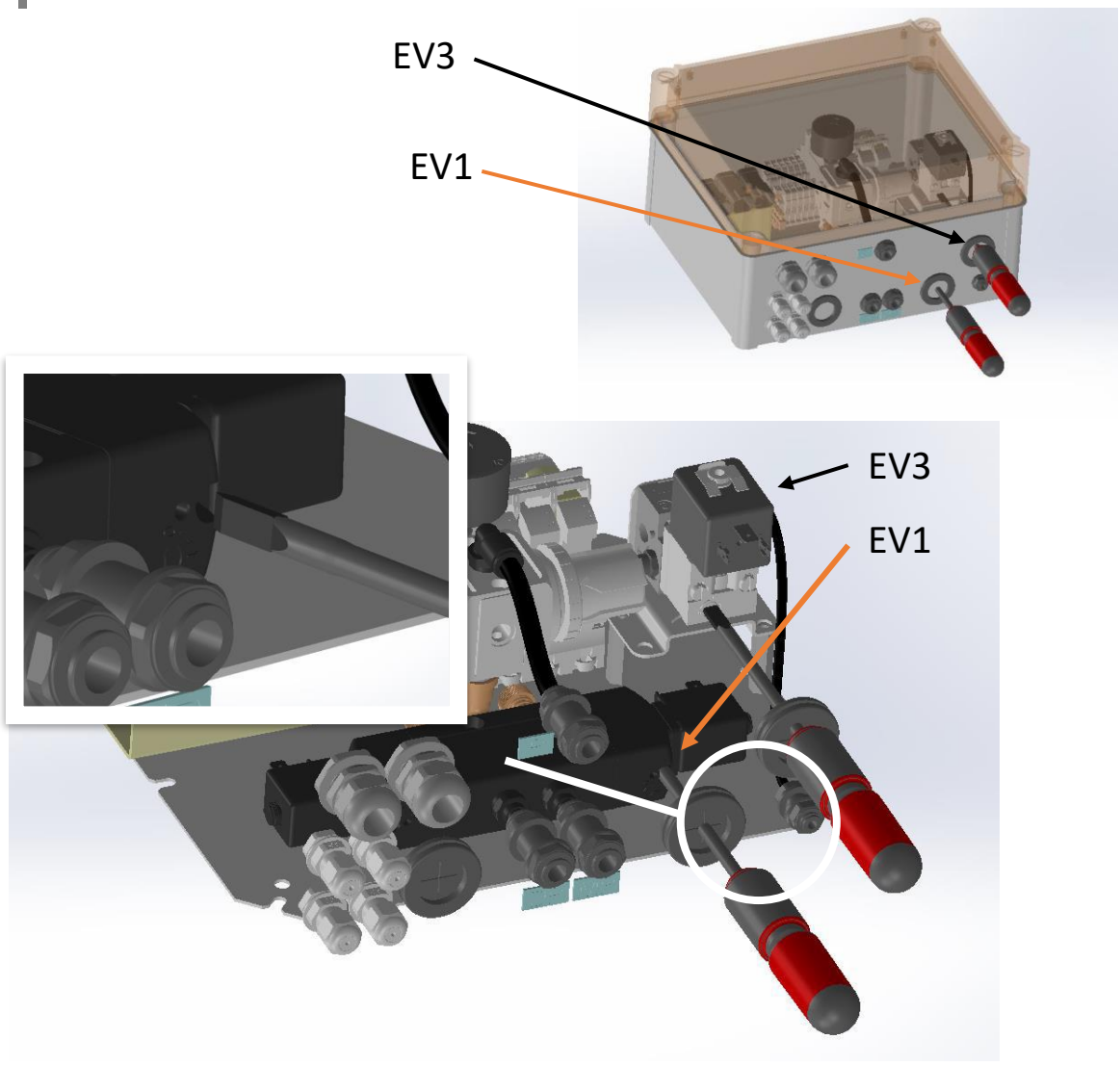
In the event of insufficient pressure in the air reservoir, an intermediate cut-out may be triggered by a pressure switch (see section 4).

6. Rollershutter control procedure without power supply (degraded mode)

The control unit is made up of 3 solenoid valves controlling 3 pneumatic spool valves, which can be manually operated with a flathead screwdriver.

The screwdriver is inserted into the diaphragms on the underside of the box to reach the various pneumatic valves.

6.1. Opening procedure in downgraded mode



To raise the rollershutter, follow the steps below in sequence.

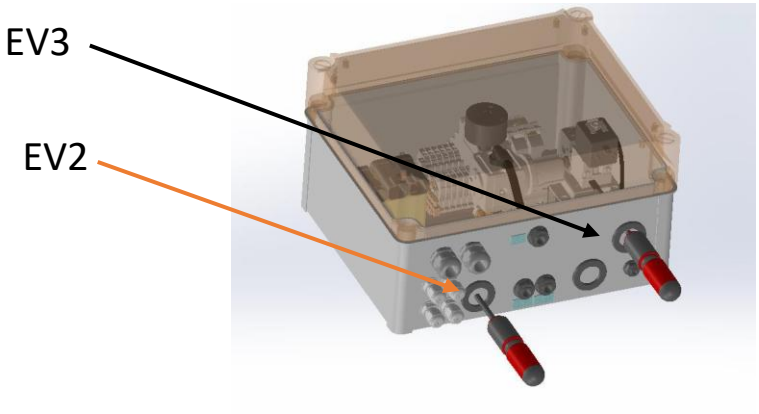
⚠ **Check that no-one is near the rollershutter. Behavior in degraded mode can be abrupt**.

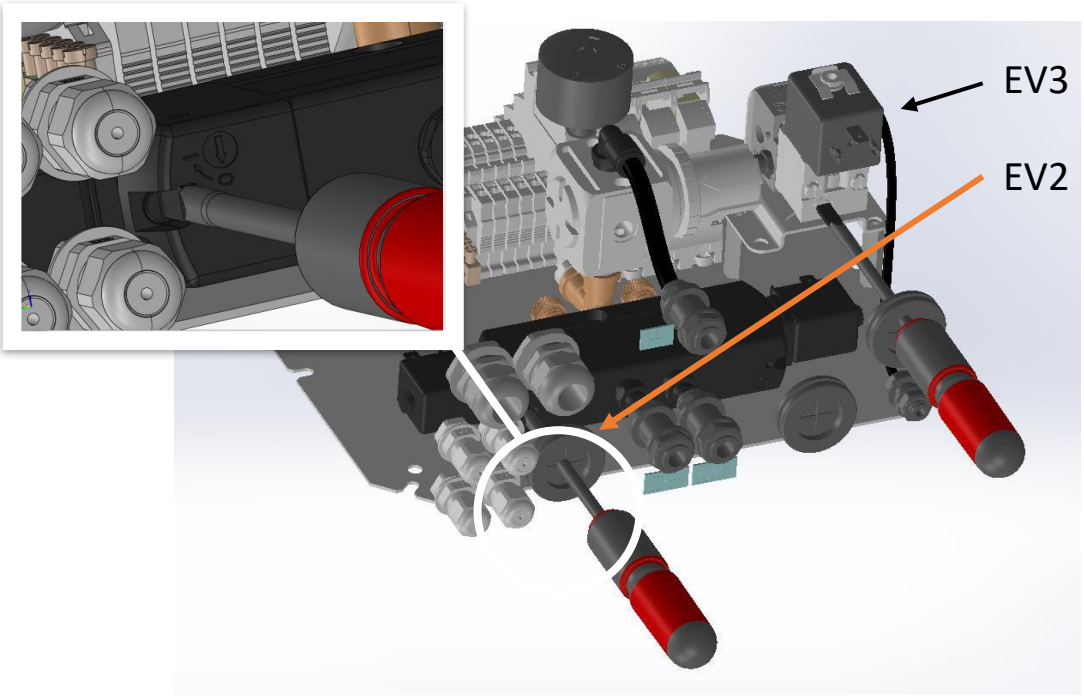
- Insert the screwdriver into the EV1 membrane and switch the EV1 solenoid valve from position 0 to 1 by turning it ¼ turn to the right.

- Insert the screwdriver into the EV3 membrane and hold down the push-button on the rear of EV3. The rollershutter will continue its opening cycle until the button on EV3 is released.

After opening, insert the screwdriver into the EV1 diaphragm and toggle the position of the EV1 solenoid valve from 1 to 0 by making 1 ¼ turns to the Left. Without this manipulation, the rollershutter will be constantly supplied with air on the way up and will not be able to go back down.

6.2. Shutdown procedure in downgraded mode





To lower the rollershutter, follow the steps below in sequence.

⚠ **Make sure no-one is near the rollershutter. Behavior in degraded mode can be abrupt.**

- Insert the screwdriver into the EV2 membrane and switch the EV2 solenoid valve from position 0 to 1 by turning it 1¼ turns to the right.

- Insert the screwdriver into the EV3 membrane and hold down the push-button on the rear of EV3. The rollershutter will continue its closing cycle until the button on EV3 is released.

- After closing, insert the screwdriver into the EV2 diaphragm and toggle the EV2 solenoid valve position from 1 to 0 by making 1 ¼ turns to the Left. Without this operation, the rollershutter will be constantly supplied with air on the downstroke and will not be able to rise

TROUBLESHOOTING

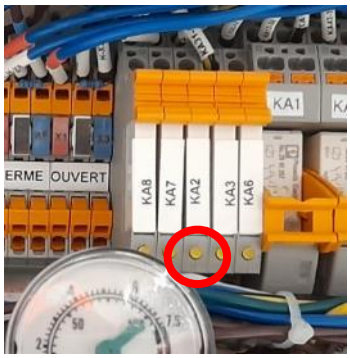
If paragraphs 4 & 5 of the "Quick Troubleshooting Manual" do not provide a lasting solution, please refer to the troubleshooting sections below.

7. The door won't open:

7.1. Check that the "door closed" sensor is not incorrectly positioned.

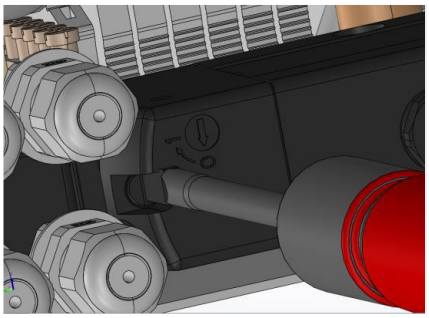
In the electro-pneumatic box, the KA6 LED indicates the status of the rollershutter closing sensor.

If this light comes on when the rollershutter is closed, or lights up intermittently during the opening cycle, the "door closed" sensor must be repositioned 10 mm away from the rear quarter panel.



7.2. Check that the solenoid valves are not manually forced open.

If the rollershutter opens in degraded mode, the solenoid valves on the pneumatic distributor have been manually operated. In this case, check that they have not remained forced on the manual override (1). Refer to section 6 of the "Quick troubleshooting manual".



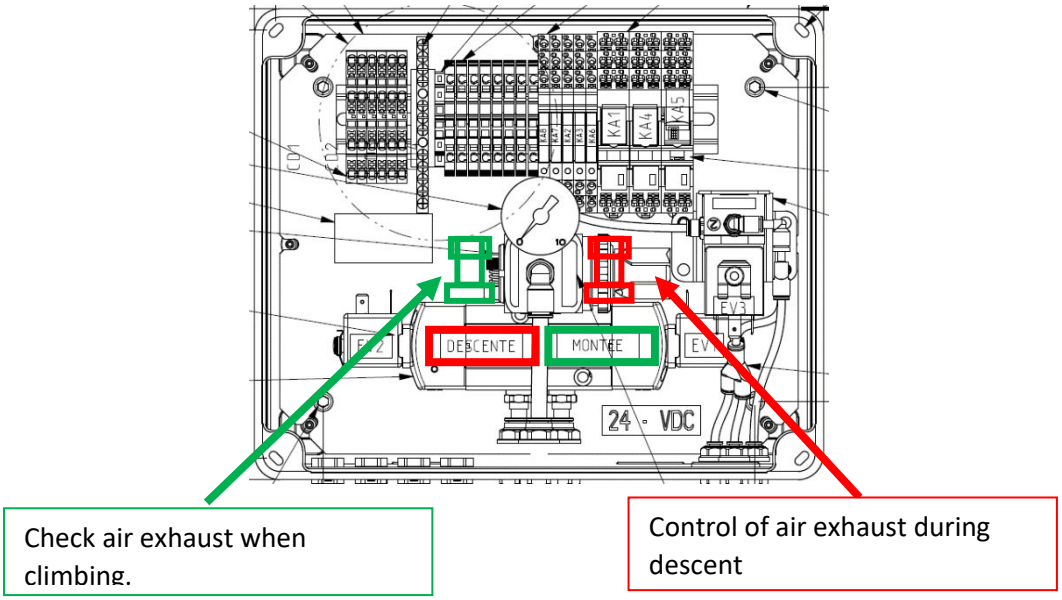
7.3. Check that pneumatic flow restrictors are not closed.

Smooth operation depends on exhaust flow limitation. If the flow restrictors have been completely closed, air can no longer escape from the cylinder chambers.

7.3.1.Vehicles produced until May 2025

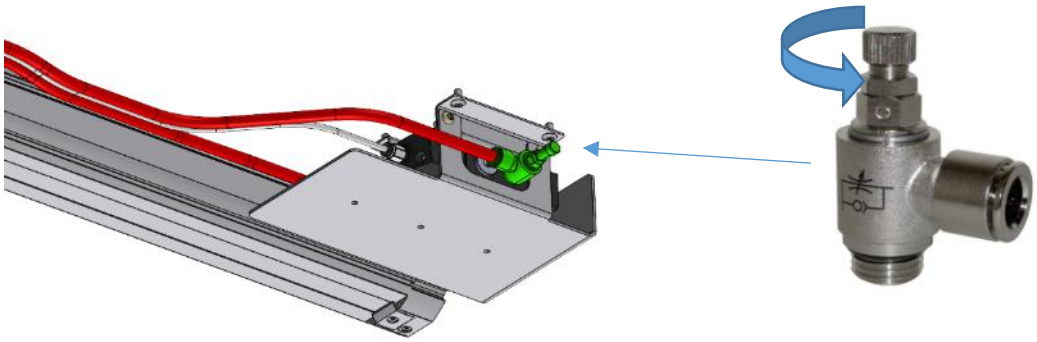
For vehicles with a production date prior to May 2025, the adjustment is made in the electro-pneumatic box on the main 5/3 valve.

To restore the original setting, screw in the flow restrictors completely, then unscrew by 2 turns.
⚠ Caution: a wider opening will result in sudden movements of the rollershutter, which can be dangerous for the user and damaging to the equipment.



7.3.2.Vehicles produced from May 2025.

For vehicles produced from May 2025 onwards, the flow restrictors mentioned in the previous paragraph (7.3.1) are still present, but must be fully opened (unscrewed several turns). They are no longer useful. The functional flow limiters are located on the pneumatic blockers on the cylinder ports. Adjustment is by means of the protruding screw, and is maintained by means of the locknut at the base of the screw.
The correct setting is an opening of 2.5 turns from the "fully screwed-in" position.



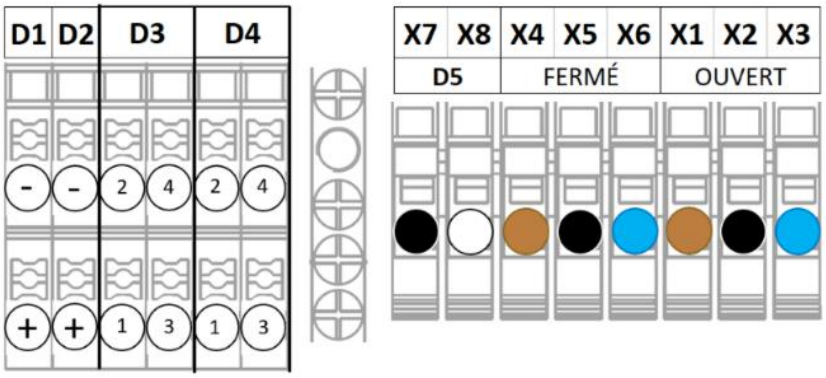
The flow control valve at the front of the vehicle adjusts exhaust speed as the rollershutter rises. The flow restrictor at the rear of the vehicle regulates exhaust speed when the rollershutter is lowered.

7.4. Check that all components entering the cabinet are correctly wired

Following a quick troubleshooting attempt, some connections may have been modified.
A wiring label is provided in the cabinet to ensure correct wiring of the power supply, dryer and HMI.

D1: Alimentation
D2: Dessiccateur
D3: IHM 1
D4: IHM 2 (option)
D5: Pressostat inter

D3-1 = Alim +12v / +24v
D3-2 = Bouton Cadenas
D3-3 = Bouton Montée
D3-4 = Bouton Descente
D4-1 = Alim +12v / +24v
D4-2 = Bouton Cadenas
D4-3 = Bouton Montée
D4-4 = Bouton Descente



If the HMI does not show the correct wire colors in relation to the box sticker, it is an old version and you should refer to the following correspondences:

Old HMI	New GUI
Brown	Brown
Yellow	Black
White	Blue
Green	Grey

7.5. Check that the HMI is working properly.

Check that a change of state occurs when the lock and lowering buttons are pressed and released.

8. The door won't close.

First check points 7.2 to 7.5 in the "Door won't open" section. Below are the faults specific to closing problems.

8.1. Check that the body interior pressure switch is not faulty.

The pressure switch inside the body prevents the rollershutter from lowering in the event of insufficient pressure in the cylinder's rear chamber, thus ensuring safe operation.

The pressure switch can be switched off for 2 reasons.

8.1.1.Not enough pressure in the general system.

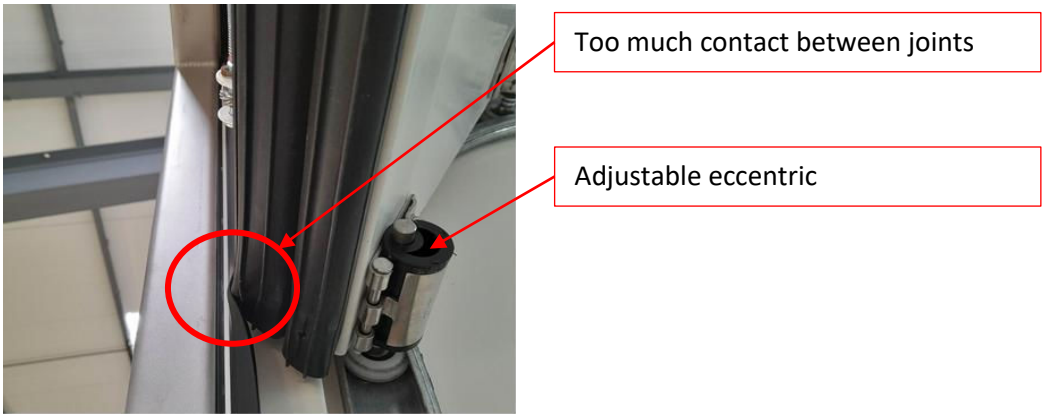
Refer to paragraph 1 of the "Quick troubleshooting" section regarding minimum operating pressure at 4.5 bar.

8.1.2.Not enough pressure in the rear chamber only.

This is a case where the air is escaping too quickly in relation to the movement of the rollershutter.

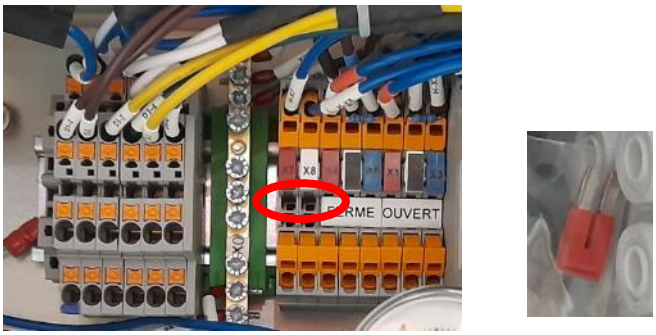
- Check that there are no mechanical elements braking or blocking the downward movement of the rollershutter.

- Check that the eccentrics supporting the castors are correctly adjusted. The eccentric at the sole of the door leaf should simply graze the rear quarter seal as it passes through the curve of the rails. Too much contact may create additional mechanical resistance to the forward movement of the door leaf, resulting in a loss of pressure in the rear chamber.



- Slightly retighten the flow restrictor on lowering. (See illustrations in point 7.3 of the "Door won't open" section).

- In order to isolate a pressure switch problem, for diagnostic purposes only, it is possible to shunt this pressure switch via the jumper present in the box, by inserting this jumper between terminals X7 and X8.

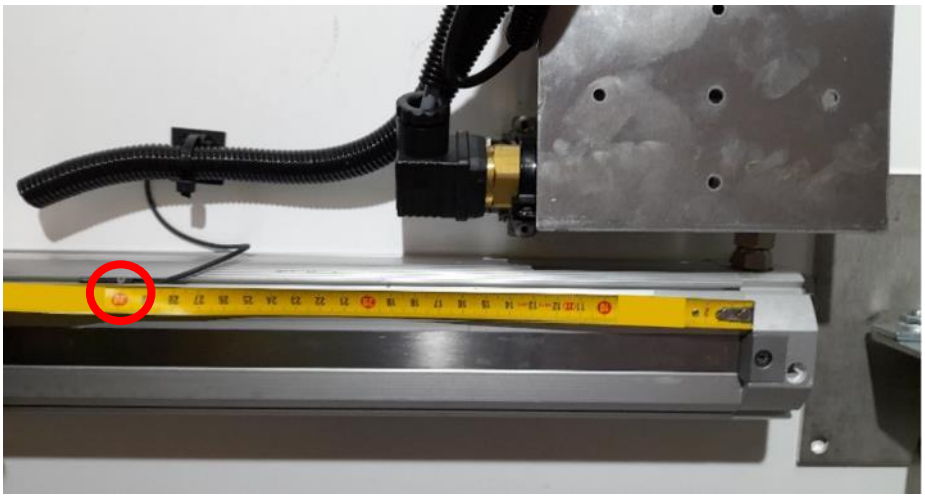


⚠ Caution: test rollershutter operation with care, as operation may be rough. **The jumper must be removed before the vehicle is put back into service.**

8.2. Check position of limit switch.

As mentioned in section 7.1, the "door closed" sensor must not be too far away from the rear quarter. Conversely, if this sensor is too far away from the rear quarter, the end of the closing cycle may occur too early, and closing may not be complete.

Sensor position: screw at 300 mm.



8.3. Check that the anti-closing valve has not been pushed in.

The anti-closing valve at the rear of the right-hand side panel is designed to reset itself as soon as the rollershutter is raised or lowered. If it remains depressed, even though the box is operating correctly, then it is probably faulty and needs to be replaced. The valve button must be temporarily pulled by hand.

8.4. Check the mechanical operation of the rollershutter

Check that there are no obstructions to closing the rollershutter: foreign objects, ice build-up, protruding fasteners, broken rollers/roller brackets, deformed or damaged rails, loose fasteners, incorrectly positioned merchandise, etc....

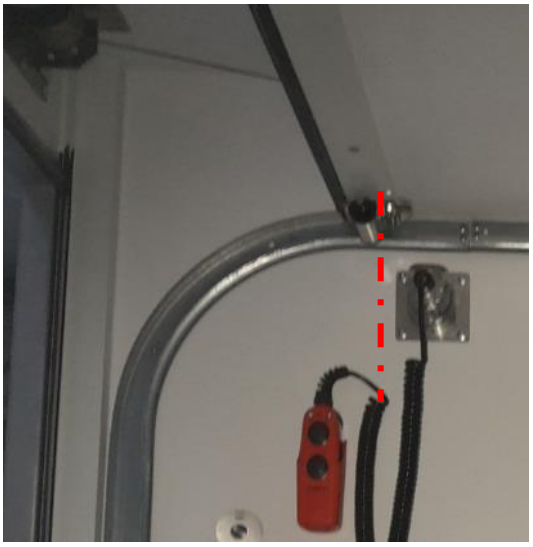
9. Other abnormal behavior

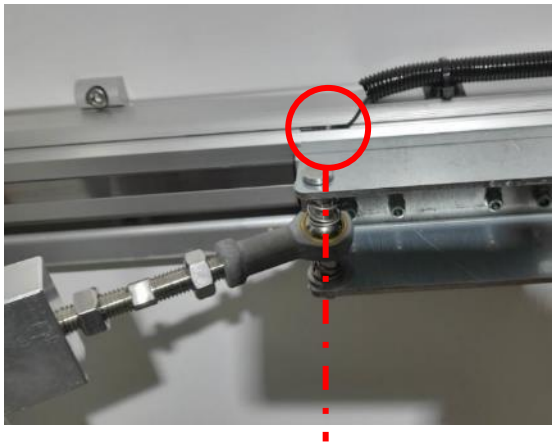
9.1. On opening, the door leaf strikes the cylinder's end of travel.

In normal operation, the "opening" limit switch, mounted on the cylinder towards the front of the vehicle, cuts off the pneumatic power supply before the door leaf reaches the cylinder limit switch. If the door leaf hits the limit switch, it is necessary to check:

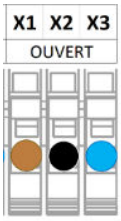
- the sensor is working properly. (The sensor LED must light up when the cylinder shuttle passes in front of it.

- Correct sensor position. The sensor must be opposite the clevis when the door leaf is open, with the sill roller at the end of the guide rail curve.





- Correct connection of the sensor in the box (check for inversion with the close limit sensor, or inversion in wire colors). The closing sensor must be connected to X1-X2-X3



- Check that the control buttons are in good condition. Check that the signal transmitted by the HMI is pulsed by checking that there is no voltage at the terminals (Raise & Lock) after initiating the closing cycle. A damaged control may continue to send a signal, causing the limit switch to overshoot.

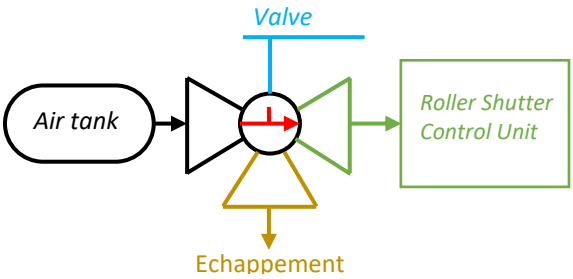
MAINTENANCE MANUAL

SERVICE AND PREVENTIVE MAINTENANCE

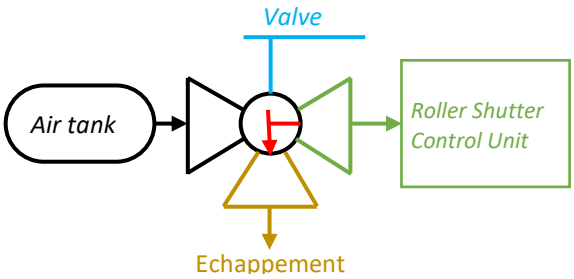
Rigorous maintenance carried out by qualified personnel will keep your FIT door performing at its best and ensure its long service life.
Lack of maintenance may render the door unsafe to use and void the warranty.
Maintenance operations depend on the frequency of use and must be carried out by qualified and trained personnel.
To maintain the original characteristics, maintenance and repairs to your FIT door must be carried out in accordance with strict rules and using original FIT parts.

For maintenance operations, a lockable isolation valve cuts off the air and electricity to the control box. It is usually located behind the left wheel of axle 1 (accessible between axles 1 and 2).

Valve operation.



Normal operation of the curtain.
Air flows from the reservoir to the control panel. The downstream pressure switch picks up the pressure and switches over to supply power to the cabinet.

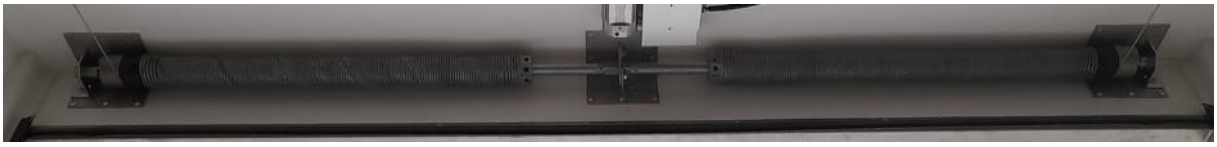


Maintenance mode.
The air tank is isolated. The air in the pneumatic circuit escapes through the valve. The downstream pressure switch senses the lack of pressure and switches off the power supply.

⚠ Residual pressure remains in the cylinder chambers, trapped between the cylinder and the blocker. If work is to be carried out on the cylinder/deck connection, this pressure must be drained.

The carriage must first be stopped at half-height, then, after the power has been cut off by means of the isolation valve on the air tank, trigger the anti-closing valve inside the body.

⚠ When working on the door leaf, or on the balancing shaft, it is necessary to take into account the tension in the balancing springs, which compensate for the weight of the door leaf. The springs are under constant tension, even when the door leaf is open. Slacken the springs before any intervention. See section 11 "Tensioning the balancing springs" to retighten the springs after intervention.



10. Component inspection and replacement intervals

	Inspection frequency			
Control points to be carried out	**Monthly or 500 cycles**	**Quarterly or 1500 Cycles**	**Semi-annual or 12,000 cycles**	**Annual or 6000 cycles**
Cleanliness complete cleaning	x			
Function test	x			
General door condition	x			
Lower section status	x			
Anti-close valve operation	x			
Hand strap		x		
Closing			x	
Locking			x	
Cable ties		x		
Low joint support profile			x	
Low joint		x		
Upper section status			x	
Status of intermediate sections			x	
Upper section status			x	
Lower section status			x	
Wheel chock				x
Low castor supports			x	
Intermediate hinges				x
Roller support hinges				x
Side seals			x	
General condition of rails and fastenings			x	
Vertical rails				x
Horizontal rails				x

Cable condition		x		
Spring condition			x	
Balancer voltage		x		
Rear frame condition			x	
Squaring the body			x	
Condition of lower part (shocks, repairs, etc.)				x
Condition of upper part (Shocks, repairs				x
Stem scraper for use in negative temperatures (Pneumatic option)				x
Tightening of cylinder, cylinder clevis and pivot mountings (Pneumatic option)			x	
Hand strap			x	
External door control			x	
Anti-close control			x	
Control panel			x	
Cylinder holder connection			x	
Pipe condition				x
Electrical wiring condition				x

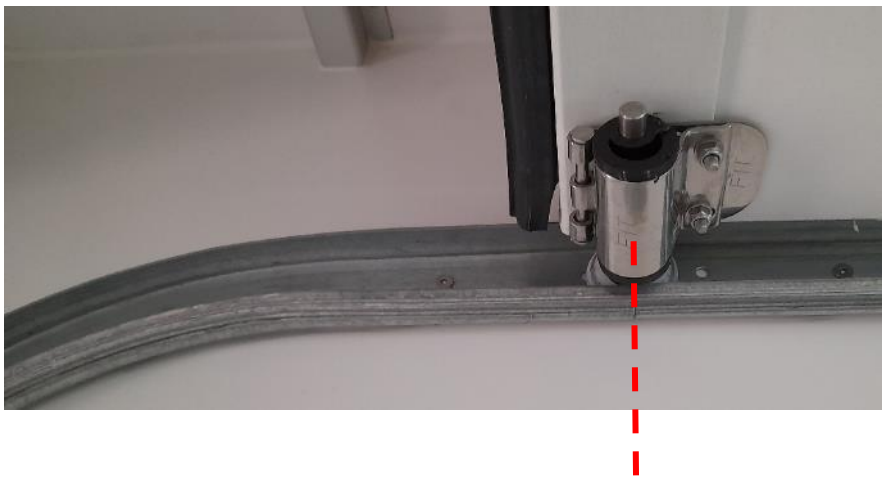
	Replacement frequency			
Preventive maintenance. Parts to be replaced.	**Annual or 6,000 cycles**	**Biennial or 12,000 cycles**	**30,000 cycles**	**60,000 cycles**
Cable ties			x	
Low joint support profile			x	
Low joint			x	
FIT Max wheels (green bandage) for Husky doors		x		
Low castor supports			x	
Intermediate hinges			x	
Roller support hinges			x	
side seals		x		
Cables		x		
Springs			x	
Rails				x
Apron				x
Rodless cylinder seal (Pneumatic option)				x

11. Balancing spring tension

The balancing spring must be adjusted with the door open.

The reference point is when the sill roller is opposite the curve/horizontal rail junction. The spring must have the following setting:

5.5 turns on an internal height of 2650 mm.
4.5 turns on an internal height of 2400 mm.



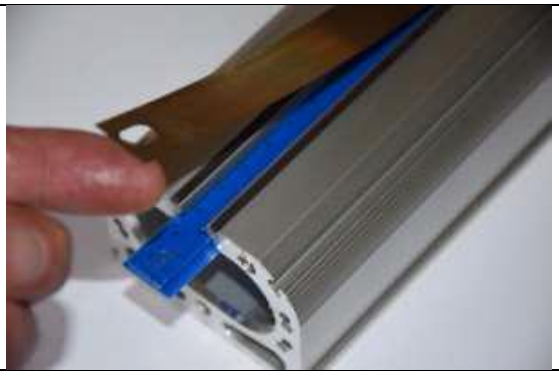
12. Changing rodless cylinder seals

The rodless cylinder seals must be changed every year to ensure optimum operation of the rollershutter. Maintenance instructions for an Aventics rodless actuator, taken from Emerson documentation.

12.1. Dismantling the cylinder.

Tools required 5 mm Allen key. Clamp. Torx wrench N° 15.	

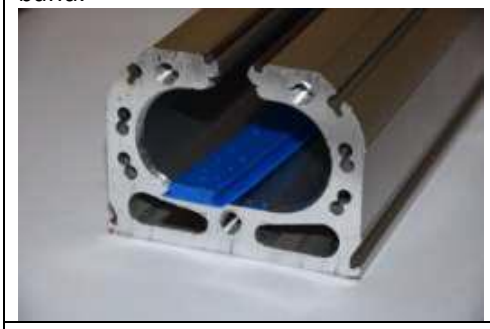
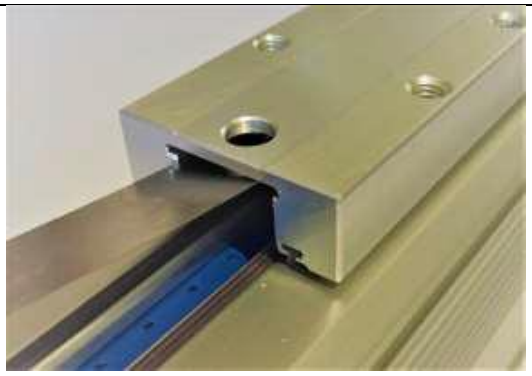
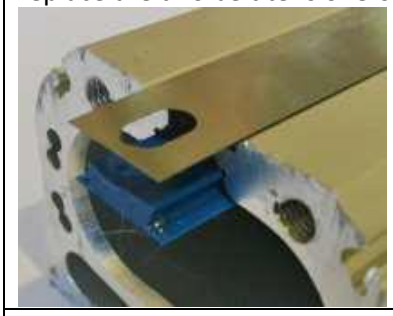
1: Remove the two black band tensioners using a flathead screwdriver, pressing gently on the top part. Guide the turnbuckle outwards.	
2: Remove the belt tensioners on both sides 	
3. Remove the two belt fasteners using a No. 15 Torx wrench. 	
4: Remove bottom screws. Unscrew with an Allen key 	
5: Slide the carriage out of the cylinder.	

6: Remove the inner and outer bands.	

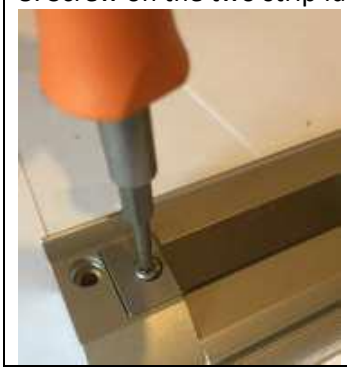
12.2. Reassemble the cylinder.

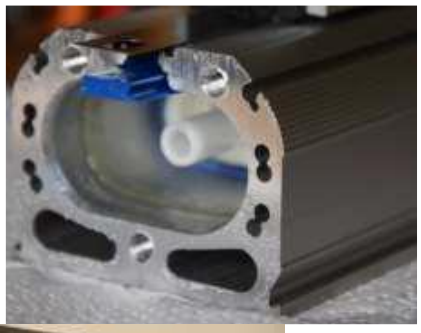
Clean the inside of the cylinder barrel with a clean, dry cloth.
Clean inner and outer belts with a clean, dry cloth.
Clean the piston with a clean, dry cloth.
Apply grease on the cylinder piston.

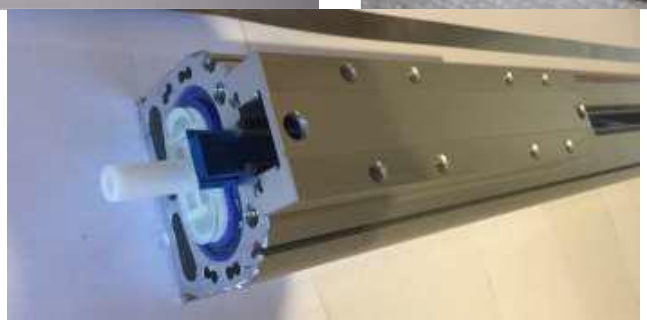
1: Pass part of the outer metal belt through the lower part of the carriage, which will act as a guide for the inner belt. Location 1 	
2: Slide the inner band onto the outer band on the opposite side. to make it stand out on the other side. 	

3: Place the carriage back in the cylinder with the inner band fully in the cylinder. Use pliers to balance the two ends of the inner band. 	
4: Slowly slide the carriage inside the cylinder, holding the belt. in place.	
5: Slide the outer metal band into the upper part of the piston. Location 2. 	
6: Once the belts are in place and spaced, replace the two belt tensioners. 	
7: Screw the two bottoms back together. 	

8: Screw on the two strip fasteners.







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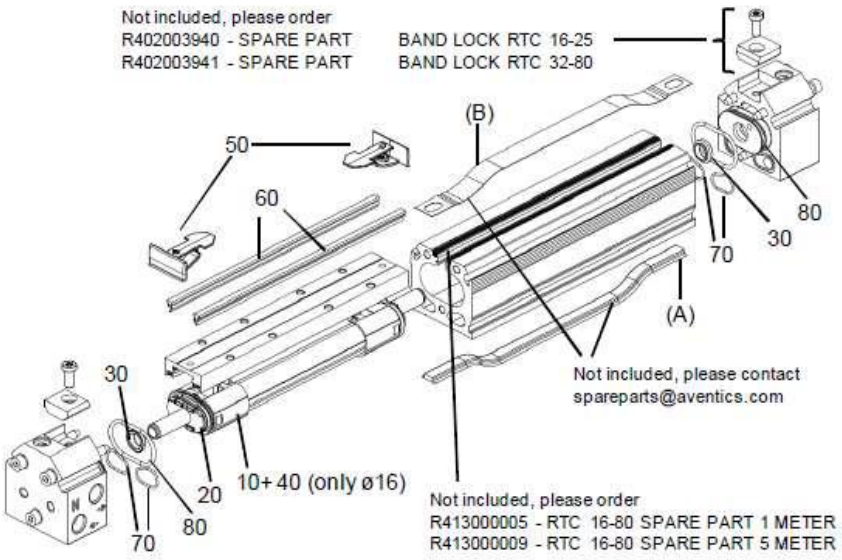
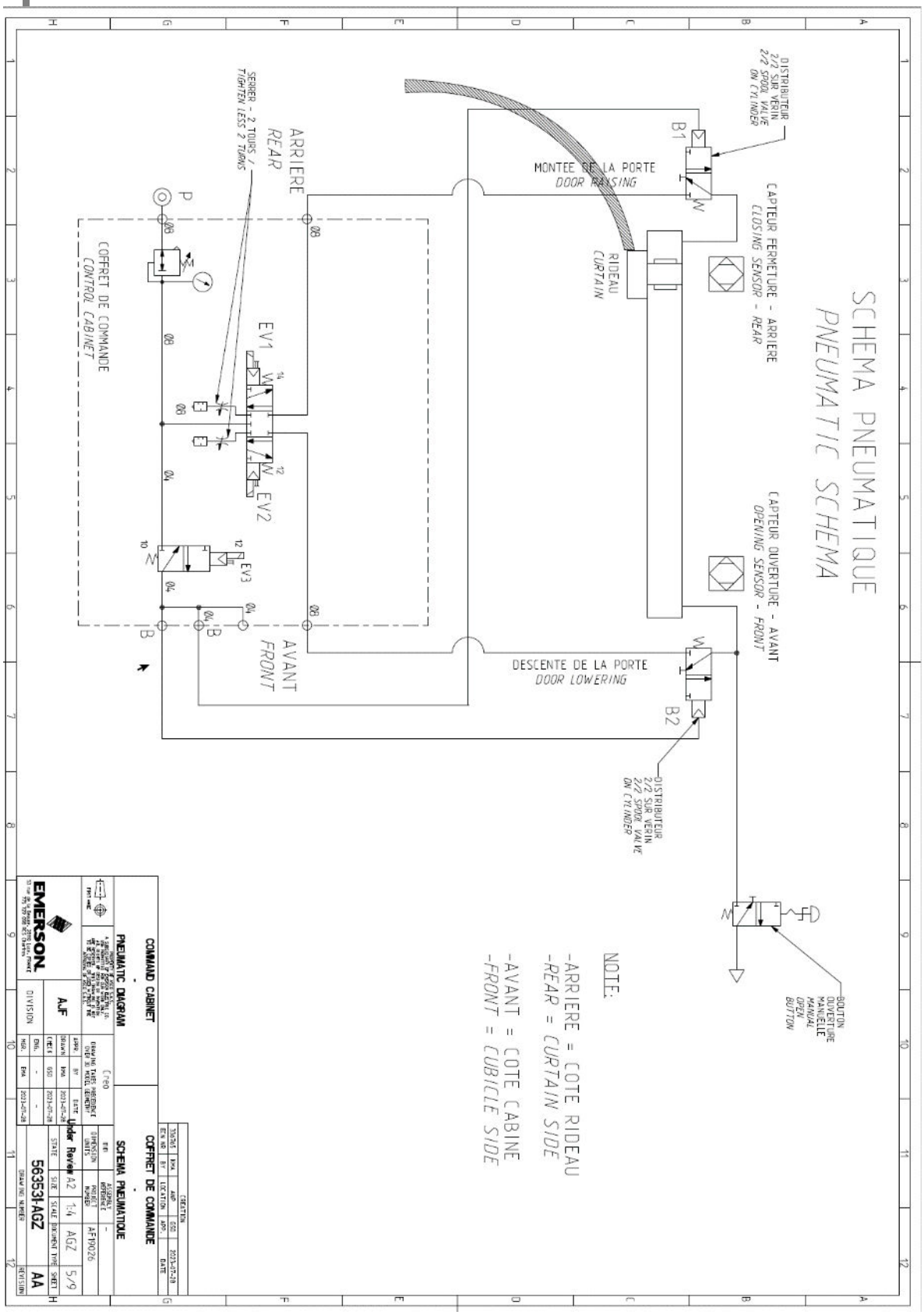


13. Appendices

13.1. Appendix 1: Pneumatic diagram.



13.2. Appendix 2: Electrical wiring diagram