SALCO

Maintenance Instructions

- Refrigerator and deep freeze doors
- Airlock (high speed freezer doors)






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1. Foreword

Congratulations on your purchase of your cooler-freezer or airlock door from Salco B.V.

The cooler-freezer or airlock door from Salco B.V. was developed and produced according to the latest state of the art and complies with all relevant and applicable European Guidelines for safety and health. The cooler-freezer door is labelled with the CE-marking. The airlock is labelled with a 2B declaration.
Additionally, the cooler-freezer door was tested for safety by an external testing office (SKG: notified body nr. 0690).

These maintenance rules are an integral component of this product and include instructions for the use, maintenance and repair as well as information for the sale use of the cooler-freezer or airlock door. Keep the maintenance rules for the entire operational lifetime of the product.

For the assembly and installation, a set of assembly instruction is available on our website www.salco.nl.

The manufacturer is not liable for unsafe situations, accidents or damages that are the result of:

- Ignoring of warnings or rules as stated on the installation, the machine or in the operating instructions.
- Inadequate maintenance.
- Use for other purposes than those described in the user´s manual.
- Modifications to the installation /machine by third parties. This also includes the installation of replacement parts other than those prescribed and modifying the control program for the door control.

The General Terms of Delivery and Payment of the Metalworkers Union also apply.

This (sample) type plate is located next to the inside opened and for vertical doors on the lower right of the rail side.

2. Introduction

The cooler-freezer or airlock door is intended to close refrigerator or dee freeze cells. Every cooler-freezer of airlock door (depending on the dimensions and the function) is client-specific. For the technical data/configuration we refer to the order confirmation.

The refrigerator or freezer door is constructed of:

- An insulated panel constructed of aluminium or RVS frame profiles with sealing profiles and connectors that do not act as thermal bridges.
- Frame made of aluminium or RVS, self-supporting and free of thermal bridges
- Falling and locking rail system so that the door can be hermetically sealed, equipped rubber profiles.
- If applicable: Electrical drive, consisting of a motor with toothed belt drive/flat belt and a control unit (door control).
- Sill and/or frame heating, door plate, bottom gasket, rail heating (optional).
- Sliding dowel and/or threshold heating (optional).

3. Safety

3.1 Safety precautions:

The following safety precautions are included in the electrically operated sliding and vertical lifting doors:

- The drive motor is equipped with a thermal safety or sufficient cooling Mechanical shielding where possible along the belt drive.
- The drive forces and speed are monitored in the closing direction by the door control using a force curve that conforms to NEN-EN 13241 (not applicable to airlocks).
- If necessary, a safety bar to prevent crushing hazards is placed on the closing side of the door in doors (not applicable to airlocks).
- The door control is secured with an automatic breaker for the control voltage circuit.

3.2 Safety regulations:

The following rules are important for the safe use of the cooler-freezer door:

- Always do a last-minute risk analysis (for example: check of if control conveyors have been put out of operation, etc.)
- Avoid getting locked in the cooler/freezer cell, with little oxygen.
- Never work on unit when it is powered.
- Make sure that there can be no solid obstacles (e.g. columns, pallets and fencing) within 50 cm of the door on the closing side and sliding side. This can cause unacceptable crushing risks.
- Do not lay any objects and/or materials in the path of the door. This can cause (serious) injuries and damages.

- Never put your fingers or feet in the moving path of the running rail or vertical rail. You can get caught in the drive and/or be dragged along. This can cause serious injuries.
- The placement of the control box must be such that the operator has a good view of the movements of the electrically operated sliding door.
- The sliding door may only be operated by authorized personnel who have read the content of the operating manual.
- Check before operating the sliding door to make sure that there are no obstacles to the entrance to the room to be closed.
- During maintenance the electrically operated sliding door must always be de-powered. Keep residual voltage in mind, since there could be some in the frequency regulator (+/- 5 min). Not: The door can move on residual voltage but cannot slow down!
- If necessary: Make sure a scissor platform and/or a scaffold/ boards is present for the sake of the safety of your or our installers.

3.3 Residual risk for cooler-freezer doors

Salco B.V. has sought to provide an optimum between the functionality of the (electrically operated sliding doors, their safety and ease of operation.
The manufacturer requests that you show consideration for the following residual risks of the electronically operated sliding door:

- In spite of the limited drive forces and speed of the electrically operated sliding door, a risk of crushing is still possible. The choice of location for the position of the safety bar depends on the position of the unlocking mechanism on the inside of the door. Crushing danger can therefore not be completely prevented. The last 50 cm during the closure proceeds at a relatively low speed.
- When closing a horizontal sliding door, it will drop down about 8 mm. The open space between the door and the door frame will then be about 8 mm. There will still be a possible crushing danger for fingers. (The door gasket is not including in the play.)
- There is no emergency stop for horizontal sliding doors. The safety bar on the front side of the sliding door (not applicable to the airlock) fulfils the function of the emergency stop. When the safety bar is activated, a safety movement should always be affected in the opening direction.
- Crushing danger back/sliding side of the door.

These risks are regarded by the manufacturer as residual risks. Well-instructed personnel with proper maintenance and safe work practices are nevertheless able assure safe work with electrically operating sliding doors.

3.4 Residual risk for airlock (high speed freezer doors):

- The airlock door is viewed with the 2B declaration to be an incomplete machine. Control is provided through external signals. No additional safety precautions are applied. To receive a CE declaration, the following must be supplied by a third party: gates, radar, light curtains which must be externally tested.

4. Assembly, installation and commissioning

The assembly and installation will be completed by Salco B.V. or by dealers approved by Salco (preferred suppliers). An assembly manual is available for installation companies.

Before you put the door in operation, you always need to check for proper function and installation. Carry out the following actions:

- Check to see if all the stickers, are affixed as indicated in the drawings.
- Open and close the door a few times to check if it is working properly.
- Do the same thing from the other side of the door to inspect everything visually.
- Stop the door a few times using the stop button as well. If this all works correctly, you can put the door into operation.
- Check to see if the safety on the pressure bar on the closing side works by pressing the bar lightly (not applicable to airlocks).
- Check the key switch.

5. Maintenance

Warning:

Make sure that the electrically operated sliding and lifting door is always de-powered during service, maintenance and repairs by completely cutting off the supply voltage.

The user must make sure that, depending on use, the door undergoes regular service annually or after every 100,000 cycles or after a collision. This reduces the chance of problems with the door and this also increases the ease of use. Furthermore, it prevents unnecessary costs in repair and maintenance.
This regular servicing must be completed in conformity with the maintenance rules from the manufacturer.
We advise carrying out a visual inspection weekly in order to prevent premature wear and tear and identify defects.

The attached checklist needs to be gone through periodically (at least 1 x per quarter).

5.1 Maintenance schedule

For (continuous) proper function of your cooler-freezer door or airlock door, the following maintenance schedule prescribed by Salco B.V. must be heeded.

	Check after a collision	Check weekly, physically inspect	Check monthly	Service interval every 6 months or after max. 100,000 cycles	Preventatively replace every 5 years or after max. 1,000,000 cycles
Keep logbook, note number of movements	■		■	■	
Adjustment guide rollers horizontal sliding door	■	■			■
Adjustment guide rollers vertical lift doors	■	■		■	
Does the door leaf hang right and not collide	■	■		■	
Sealing gaskets door leaf on all 4 sides	■	■	■		
Ice forming? Heating cover, freezing door sill	■	■			
Snap frames (black plastic where the door closes)	■	■			
Reveal finish and other folded sheet metal	■	■			
Electrical components (control components)	■		■	■	
Safety edge/ collision protection safety (if applicable)	■		■	■	
Slack cable protection (if applicable)	■		■	■	■
Spiral cable (and if they are crimped)	■	■			■
Toothed belt, belts or steel cables	■	■			■
Grease guide rollers			■	■	
Motor	■			■	■
Mechanical components (moving parts)	■	■		■	
Mechanical components (fixed parts)	■			■	

5.2 Description of maintenance

Collision damage	Check all components on the list for cracking and/or breakage or forms of damage or wear and tear.
Prepare logbook, and note number of movements	Read out the movements then document and note in a datasheet; see enclosure for the minimal requirement.
Adjustment guide rollers horizontal sliding doors	Check track rollers for wear and tear on the axle, bearing and nylon running surface; replace or clean as necessary.
Adjustment guide rollers vertical doors	Check track rollers for wear and tear of axle, bearing and nylon running surface; replace these rollers every 100,000 cycles on account of wear and tear running surface. Also check the lateral play of the door leaf on the rollers: it must be at least 5mm.
Does the door leaf hang right and not collide	Visual check of the door, is it really hanging right and/or is/are the toothed belt/ cables not damaged and/or frayed.
Rubber gaskets door leaf all 4 sides	Check the rubber gaskets and if they tightly seal to keep out light and doe not too taut in order to prevent extra wear and tear on the rubbers.
Ice forming? Heating, cover, freezing threshold	Check the frame heating on both the door and the frame by hand. If there are defects, check the wiring and directly replace it where needed. Check the connection of the retracting cord and the supply voltage.
Snap frames (black plastic the door closes on)	Visual check for damages and where needed immediate replacement to prevent unnecessary wear and tear of the door /gaskets.
Reveal finish and other folded metal sheet work	Check for damage and sharp parts and if needed re-tighten the reveal finish or have it replaced.
Underflow / collision safety (if applicable)	Check if the rubber is intact and not damaged or frayed and check for function, if damaged replace immediately.
Slack cable safety (if applicable)	Check whether the cable, cords and/or belts are tight enough, and check visually whether they are still undamaged.
Spiral cable (and if these are not crimped)	Visual check and possible uncrimping in order to assure that the door continues to function well.
Electrical components (control components)	Check if the reference switch on the door is still works and check emergency stop/press buttons and check other control components for continued good function. NOTE!! The play in the steel strip along the side edge of the door leaf must be at least 5 mm but at most 10 mm with respect to the reference switch.

Toothed belt, belts of steel cables	Check the toothed belt and steel cables for damage or rust. Check the belts for fraying and damage.
Grease guide rollers	Grease the roller bearings preferably with a Teflon-like lubricant, the axles with a light grease (do not grease when freezing cold!!).
Motor	Check the motor for play and wear and tear and possible oil leaks (if there is an oil leak, replace the motor immediately).
Mechanical components (moving parts)	Check bearings and axles for play and wear and tear +/- 2mm.
Mechanical components (fixed parts)	Check for wear and tear and if they are tight enough.

See the spare parts list for original Salco components starting on page 11.

5.3 Sample registration sheet counter position cycles

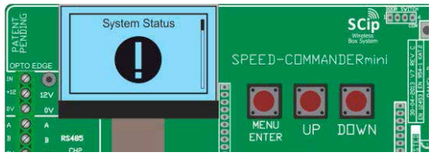
COOLER - FREEZER - AIRLOCK

Year:_____ Serial no. door/door controller: _____ Door type: _____ Door no./location: ____

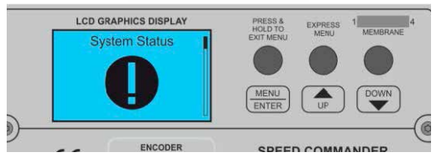
Month	Number cycles	General status	Completed or replaced
January		good - fair - bad	
February		good - fair - bad	
March		good - fair - bad	
April		good - fair - bad	
May		good - fair - bad	
June		good - fair - bad	
July		good - fair - bad	
August		good - fair - bad	
September		good - fair - bad	
October		good - fair - bad	
November		good - fair - bad	
December		good - fair - bad	

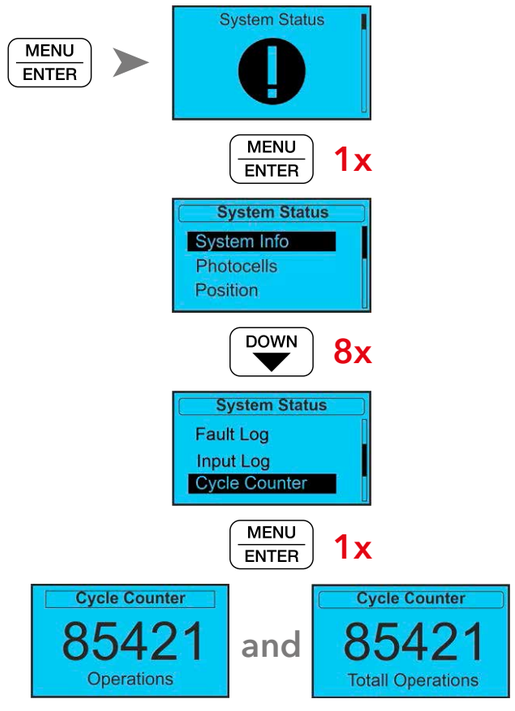
5.4 Guide to reading out number of cycles door control

Door controller type V7



Door controller type V8





The display shows two cycles counter positions: Operations (re-set possible) and Total Operations (re-set not possible).

MENU ENTER Hold button down to leave menu.

6. Reserve components

Depending on your business address (domestic or foreign), Salco B.V. is able to supply most components sensitive to wear and tear at any time rapidly and from its inventory. To assure optimal function, it is however prudent to keep a number of essential components for your door in your own inventory so that you can replace them quickly. In this overview we give you our recommendations, provided with the matching component number. These components can be ordered at **service@salco.nl** or directly from our web shop: **webshop@salco.nl** or by telephone at: +31-228-564200

Illustration	Article number	Description
	13002	Snap frame top grey h318 L= 3750mm
	65819	Frame rubber tip h=34,5mm co-extr.
	66405	Trim rubber bottom KH/KD-1010
	62673	Bottom rubber h=38mm epdm L=40m
	63170	Bottom rubber bev. angled L= 2000mm
	16333	Trim rubber hook, rounded h=34,5mm epdm (H)
	60390	Trim rub.bev.strip 5mm L= 2000mm

Illustration	Article number	Description
	16180	Toothed belt with steel wire reinforcing 100 mtr
	82545	SRA250 cord coupling complete
	66447	Collision safety excl. sleeve L=2500mm active
	67209	Bottom track cams compl. set closed
	70001	Bottom track GAT ref. L= 6100mm
	82502-S	SRA250 suspension point SET complete
	68757	Motor NMRV40/M71 0.55kW 5:1 TENV RSB
	66083	Frame heating 230v 50 watt/m (roll 250m)
	66757	Frame heating reveal set

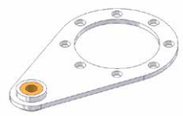
Illustration	Article number	Description
	66829-S	Enclosed 4x running roller and fittings for cover
	68842	Motor NMRV50 1.10 kW- 5:1 screen lock RSB
	68839	Motor NMRV50 1.10 kW 10:1+rem RSB
	67329	Reaction arm NMRV50 MAK
	16343	Spline 8x7x70 din 6885A
	66305	Airlock drum axle for MI50 motor middle
	67310	Door controller SCD-V8-1500 incl. net filter
	67311	Door controller SCD-V8-4000 incl. net filter
	68763	Door controller SCD-V7-1500 180x256+antenne

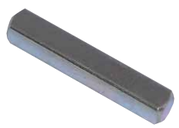
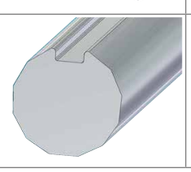
Illustration	Article number	Description
	66429	Airlock bearing plate, assembled
	66430	Airlock slack belt safety, assembled
	66311-S	Airlock flat belt 35mm L=12500mm
	66312-S	Airlock flat belt 50mm L=12500mm
	76099	Coupling 1" L=120mm F-708
	76096	Coupling 1" adjustable F-703ST
	76205	Spline 1/4x1/4" right L= 38mm F-700A
	76206	Spline 1/4x1/4" right L= 75mm F-700A
	68292	Solid grooved axle 1" galvanized L=4.000

Illustration	Article number	Description
	62628	Steel cable
	76241	Slack cable safety

7. Terms of guarantee

- A guarantee with a term of 12 months (1 year) from date of installation and transfer of the door applies to the sliding doors and motors for cooler and freezer doors.
- During these 12 months our installers must perform an inspection at a maximum of 100,000 cycles from commissioning.
- Springs have a guarantee limited to 15,000 cycles
- For motors which breakdown before 12 months and fewer than 100,000 cycles, Salco B.V. shall deliver the new motor free of charge (excluding assembly),provided that an inspection by our installers reveals no deviating circumstances such as overloading the motor with a door that weighs too much, incorrect/ unprofessional connection or intervention by third parties between service calls or modifications to the control system are discovered.
- For motors with break-downs older than 12 months, Salco B.V. shall replace the motor if requested after which the client will receive a bill for the work and the new motor.
- For motors with break-downs older than 12 months, in cases where the client appeals to conformity or other forms of goodwill in the eyes of the client, the client shall receive a bill for the work and the new motor. After this, the motor shall be assessed by Salco B.V and then by the relevant manufacturer. If credit is then given by the manufacturer, this credit will be transferred to the client 1 to 1.

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