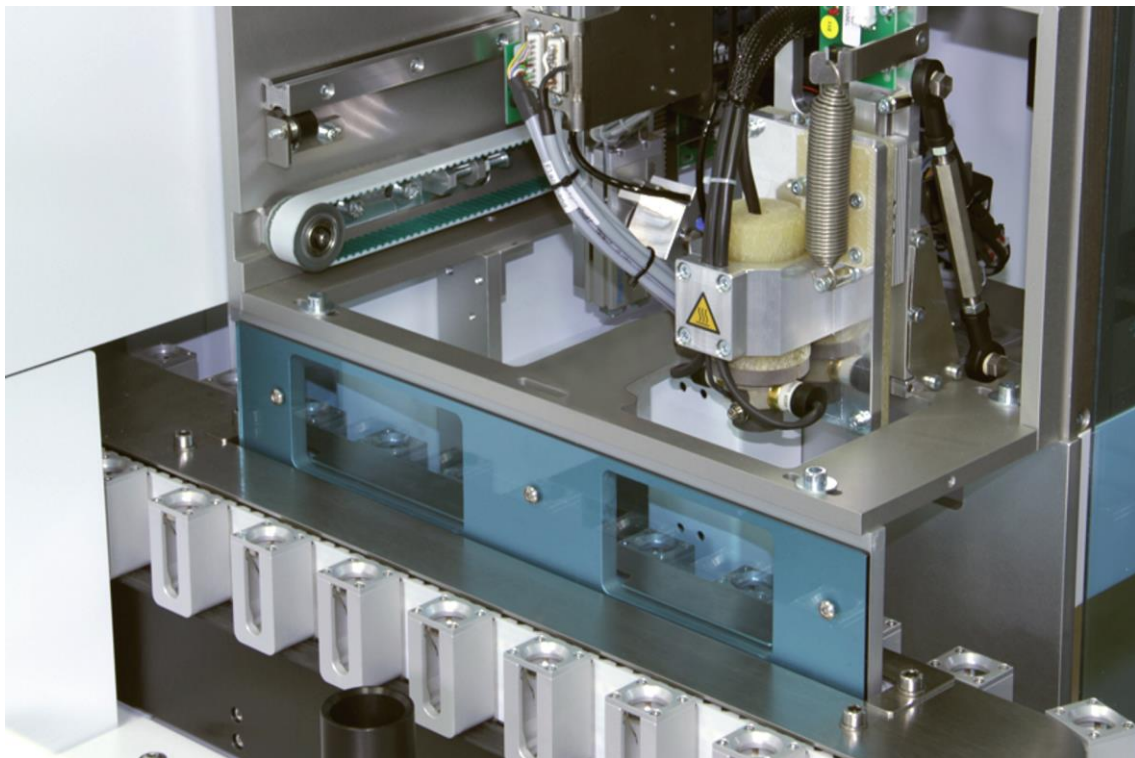


## Installation instructions for modification kit 07728514001

Upgrade to primary recapper module 115 V  
for cobas p 512 (SN 47XXXXX) pre-analytical system



## Document information

### Revision history

Version	Date	Description
1.0	October 2016	First issue
1.1	December 2016	Changed figure on cover page; added step 3 and removed image in Section 1.2.1; added electrical safety warning, Note, and new steps 3 and 6 in Section 1.2.5.

### Safety notice

Only trained service technicians may perform installation and service tasks on systems related to this document. In addition to safety instructions contained in this document, always adhere to safety instructions in service manual of related system.

Non-compliance can lead to system damage and operator injury.

### Legal disclaimer

This document is a product of Roche PVT GmbH.

All rights are reserved. No part of this document may be reproduced in any form (print, photocopy, microfilm, or another procedure) or processed using electronic systems, copied, or distributed without the written permission of Roche PVT GmbH. Roche PVT GmbH assumes no liability for any errors, omissions, or damages resulting from the use of the information contained in this document.

Neither Roche PVT GmbH nor its subsidiaries assume any liability to the purchaser of this product or any third parties for damages, losses, costs, or expenses incurred by the purchaser or third parties due to accident, misuse of the product, or unapproved modifications, repairs, or improvements to the instrument.

Roche PVT GmbH assumes no liability for damages or disruptions resulting from the use of options or accessories that are not original Roche PVT products or that do not have express approval from Roche PVT GmbH.

Note: All of the product names contained in this manual are trademarks of the respective companies. If the trademark symbols © or ® are not included, it cannot be assumed that the name is an unregistered product name.

The contents of this manual are subject to change without any communicative obligations by Roche PVT GmbH.

© Roche PVT GmbH, Waiblingen 2016

## Table of contents

<b>1.</b>	<b>Primary recapper module modification kit .....</b>	<b>4</b>
1.1.	Contents of modification kit .....	4
1.2.	Installation of modification kit .....	4
1.2.1	Preparing system for service tasks .....	4
1.2.2	Installing recapper module .....	6
1.2.3	Installing recapper control unit .....	8
1.2.4	Connecting cables and tubes .....	10
1.2.5	Updating and adjusting system .....	19
1.2.6	Performing final tasks .....	20

## 1. Primary recapper module modification kit

This procedure describes the installation process of the primary recapper module modification kit (07728514001).

---

**Note:** Images might display system that slightly varies from system on which modification is performed.

---

As necessary, refer to Service manual for installation.

### 1.1. Contents of modification kit

[Table 1](#) lists contents of the modification kit.

Position	Part description	Quantity	Type
1	Primary recapper module cobas p 512, 115 V	1	B
2	Rear cover with recapper	1	E
3	Rear cover panel, output sorter	1	E
4	Danger label, English-French	1	E
5	Lens head screw	9	E
6	Sealing foil for recapper (9x500 pcs)	1	E
7	Screwed fitting, male thread, angled -8	1	E

Table 1: Modification kit contents

### 1.2. Installation of modification kit

The following procedures describe the installation of the modification kit.

#### 1.2.1 Preparing system for service tasks



##### Electrical shock

Removing the covers and opening the safety doors of electronic equipment can cause electric shock, as there are high voltage parts inside.

- ▶ Disconnect main power supply before working inside the system.
- ▶ Ensure that power cannot be reconnected during installation process.

- 
- 1 ▶ Power off cobas p 512 pre-analytical system.
  - 2 ▶ Disconnect mains plug from power supply.
  - 3 ▶ Disconnect air supply tube.

- 4 ► Unpack modification kit and remove all packaging material.



Figure 1: Unpacking recapper and control unit

- 5 ► Remove screws along rim of output sorter's rear cover and remove rear cover.  
6 ► Open rear doors of output sorter's maintenance cabinet.  
7 ► Remove screws from cover panel behind tube transport (RTT) on rear of output sorter and remove cover panel to expose cable opening.



Figure 2: Removing cover panel behind RTT

- 8 ► Remove screws from RTT cover panel so that panel can be lifted up.

## 1.2.2 Installing recapper module

- 1 ► Lift up RTT cover panel and install RTT floor panel inside RTT and secure with screws.
- 2 ► Behind RTT, install spacer plate, aligning cable opening with that of output sorter, and secure with screws.

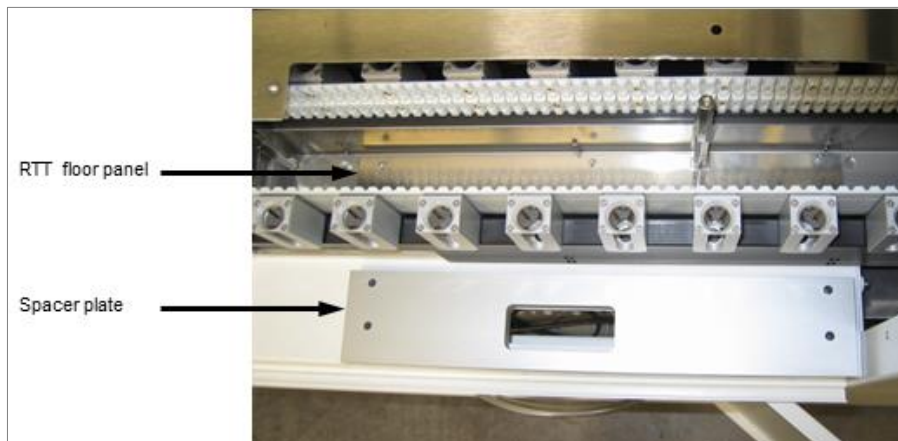


Figure 3: Installing RTT floor panel and spacer plate

- 3 ► Detach supporting bracket from recapper unit and insert supporting bracket in RTT.
- 4 ► Secure supporting bracket with mounting screws and RTT cover plate with screws.

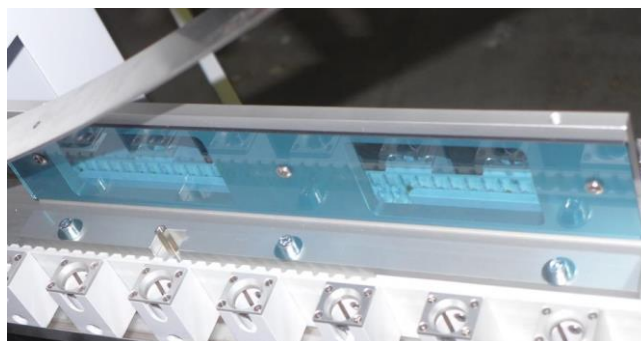


Figure 4: Installing supporting bracket

- 5 ► Place recapper on a table next to output sorter.
- 6 ► Feed cables through cable opening.



Figure 5: Feeding cables through opening

- 7 ► Place recapper on spacer plate and supporting bracket, and align all components.
- 8 ► Secure with 2 mounting screws at supporting bracket and 4 mounting screws at spacer plate.

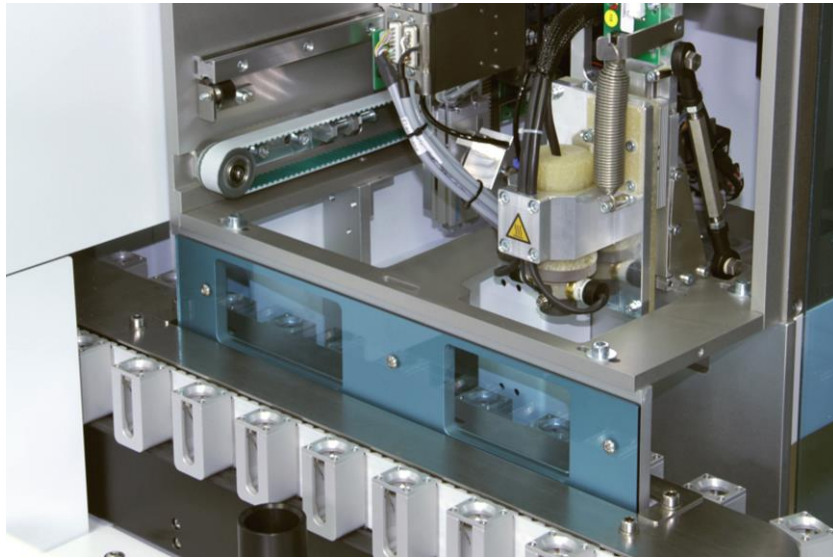


Figure 6: Installing recapper (1 of 2)



Figure 7: Installing recapper (2 of 2)



### 1.2.3 Installing recapper control unit

- 1 ► If attached, remove control unit's upper protective cover.
- 2 ► Remove cable duct covers from rear of output sorter's maintenance cabinet.
- 3 ► Open front doors of output sorter's maintenance cabinet.
- 4 ► Insert control unit through front and push toward rear of output sorter's maintenance cabinet.



Figure 8: Installing control unit

- 5 ► Insert control unit's protective cover and secure with screws.



Figure 9: Installing control unit's protective cover



- 6 ► Through rear doors of output sorter's maintenance cabinet, secure control unit to bottom plate with mounting screws.

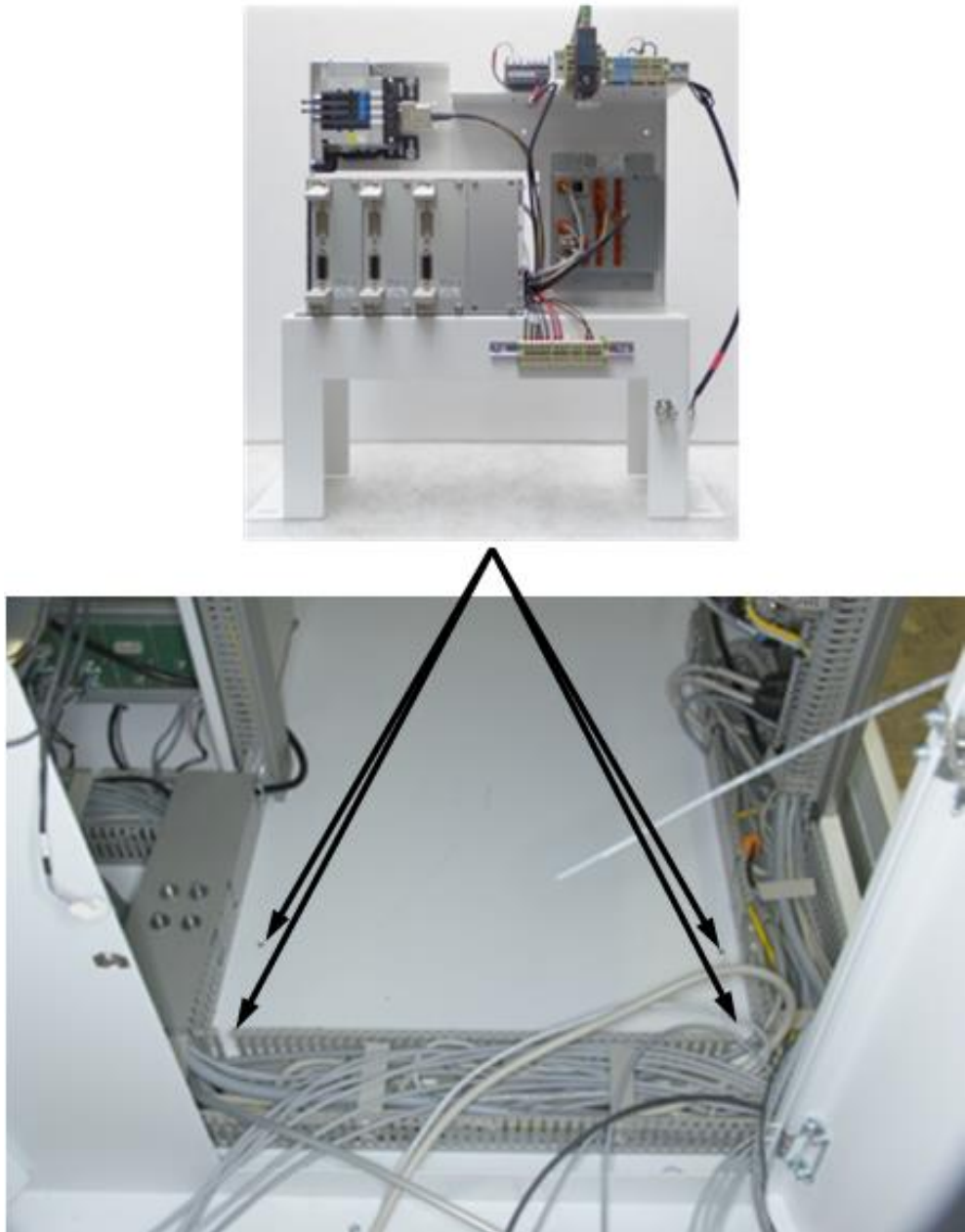


Figure 10: Securing control unit

## 1.2.4 Connecting cables and tubes

Control unit connections are displayed in [Figure 11](#).

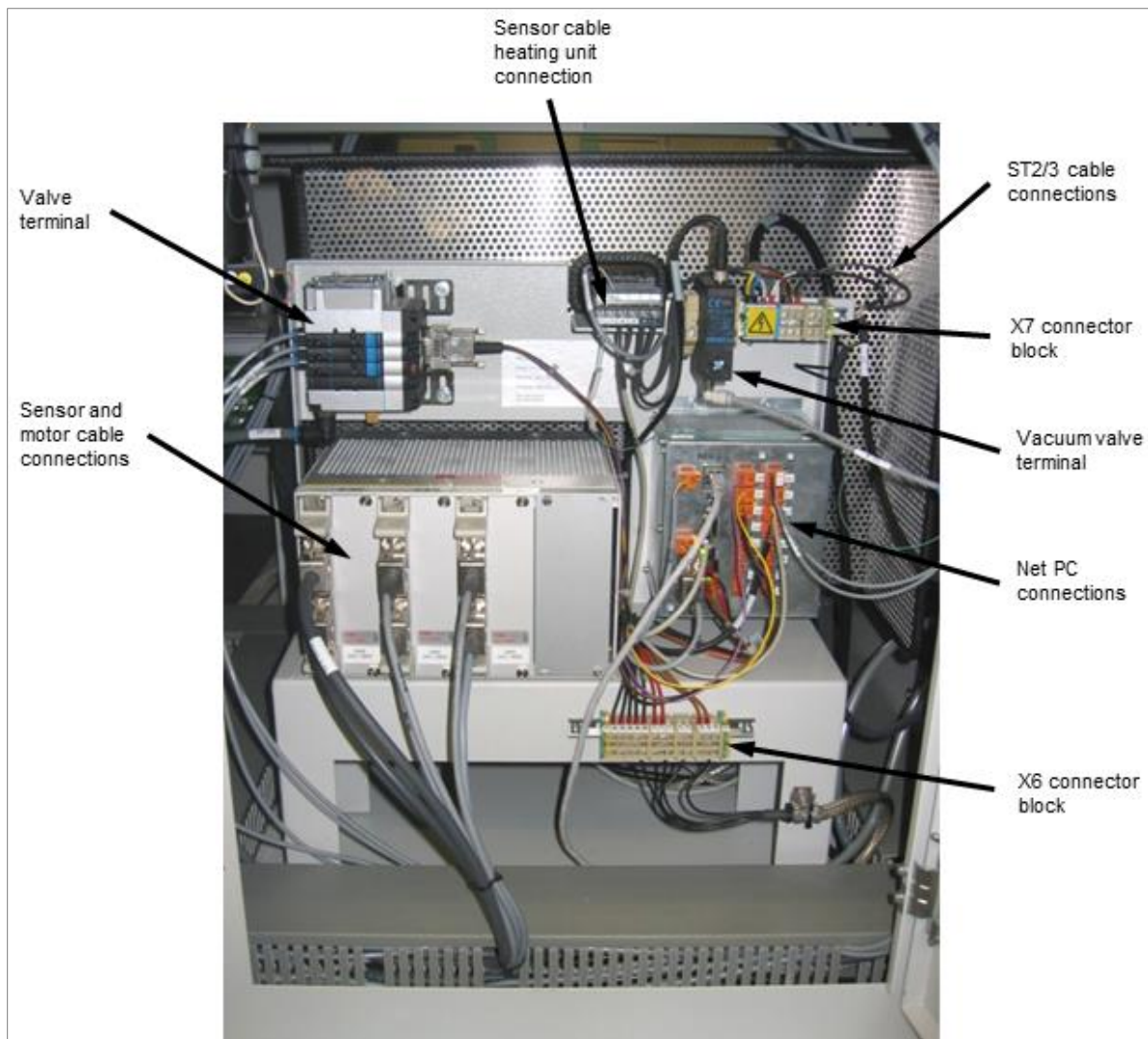


Figure 11: Control unit connections

- 1 ► Connect cables as listed in [Table 2](#).

Electrical connection	Name	Connect to
Sub-D connector sensor cable	Sensor Z-AD	DSM Z-AD ( <a href="#">Figure 12</a> )
Sub-D connector sensor cable	Sensor Y-AD	DSM Y-AD ( <a href="#">Figure 12</a> )
Sub-D connector sensor cable	Sensor Z-VS	DSM Z-VS ( <a href="#">Figure 12</a> )
Sub-D connector motor cable	Motor Z-AD	DSM Z-AD ( <a href="#">Figure 12</a> )
Sub-D connector motor cable	Motor Y-AD	DSM Y-AD ( <a href="#">Figure 12</a> )
Sub-D connector motor cable	Motor Z-VS	DSM Z-VS ( <a href="#">Figure 12</a> )
Black twin cable with 2 red plugs (ST2 and ST3)	“Abschaltung” (shutoff) HeatRelay	Relay board plug with red/yellow cables to right socket, white/yellow to left socket ( <a href="#">Figure 13</a> )
Sensor cable heating unit (two thin wires)	Green V+ White V-	Heating unit sensor cable connection: Green cable to V+ White cable to V- ( <a href="#">Figure 14</a> )
Red plug 3.0	“Schwenker” (turning unit) GS	Net PC connection 3.0 ( <a href="#">Figure 15</a> )
Red plug 3.1	“Schwenker” (turning unit) AS	Net PC connection 3.1 ( <a href="#">Figure 15</a> )
Temperature alarm connector	Temperature control	Net PC connection 3.2 ( <a href="#">Figure 15</a> )
Temperature alarm connector	Temperature control	Heating unit sensor cable connection: AA and AB
White plug power supply heating	115 V	Socket at end of cable “Heizspule” (heating coil)

Table 2: Cable connections

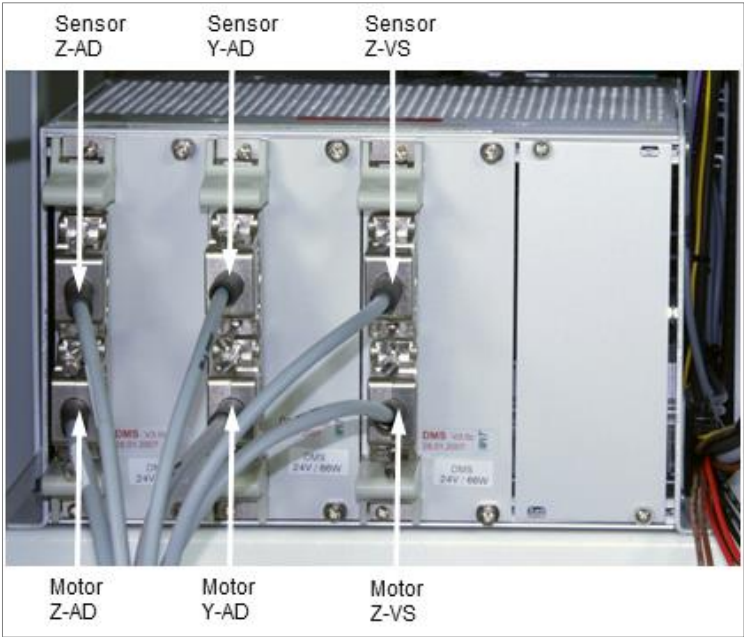


Figure 12: Connecting sensor and motor cables

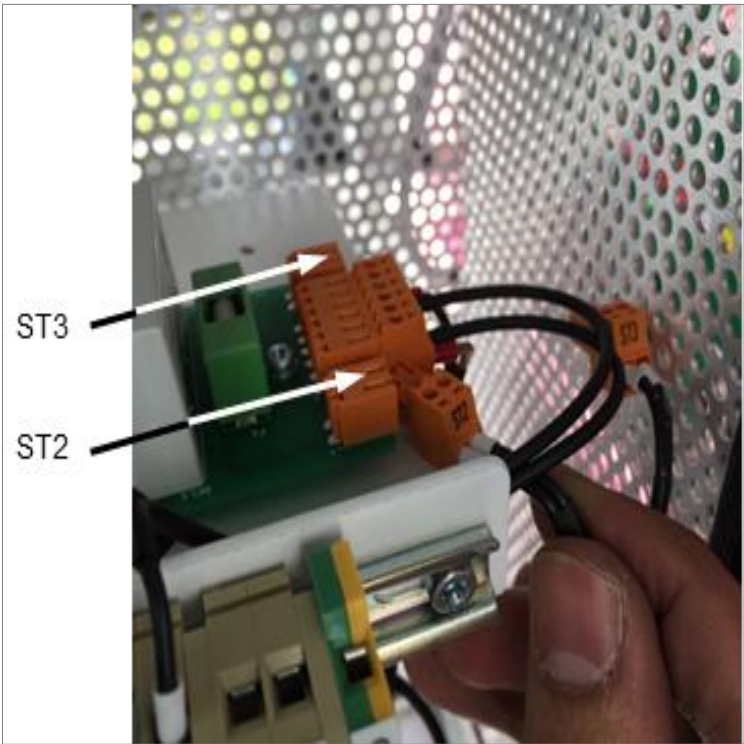


Figure 13: Connecting ST2 and ST3 cables



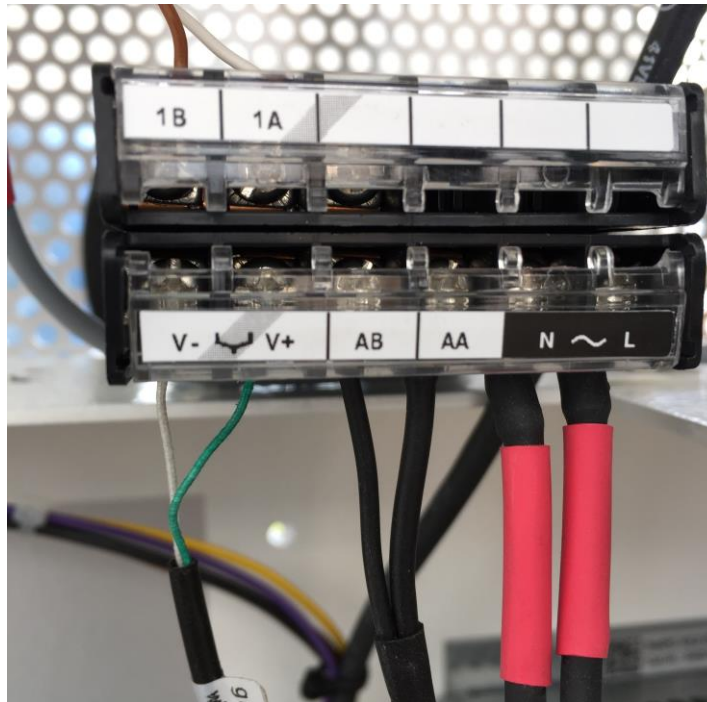


Figure 14: Connecting sensor cable heating unit to V+ and V- and temperature alarm connector to AA and AB

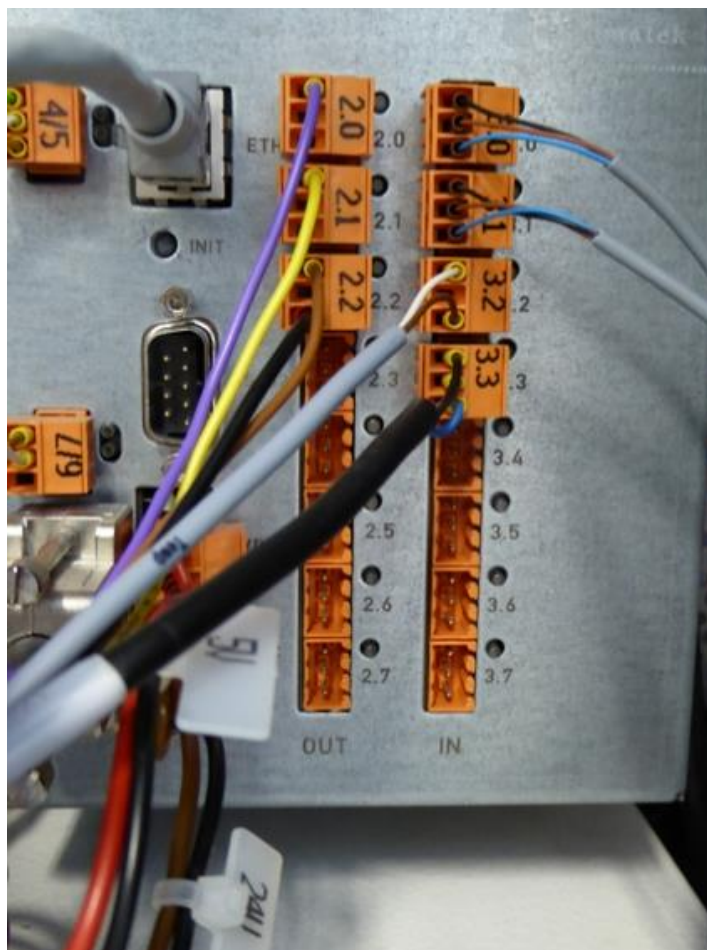


Figure 15: Connecting cables to Net PC

- 2 ► Connect pneumatic tubes to valve terminal as listed in [Table 3](#).

Tube name	Connect to
Compressed air	Compressed-air supply connection ( <a href="#">Figure 16</a> )
Y 2.1 press-on foil	Y 2.1 connection ( <a href="#">Figure 16</a> )
Y 2.2 GS turning unit	Y 2.2 GS connection ( <a href="#">Figure 16</a> )
Y 2.2 AS turning unit	Y 2.2 AS connection ( <a href="#">Figure 16</a> )
Y 2.0 vacuum	Y 2.0 connection ( <a href="#">Figure 16</a> and <a href="#">Figure 17</a> )

Table 3: Pneumatic tube connections

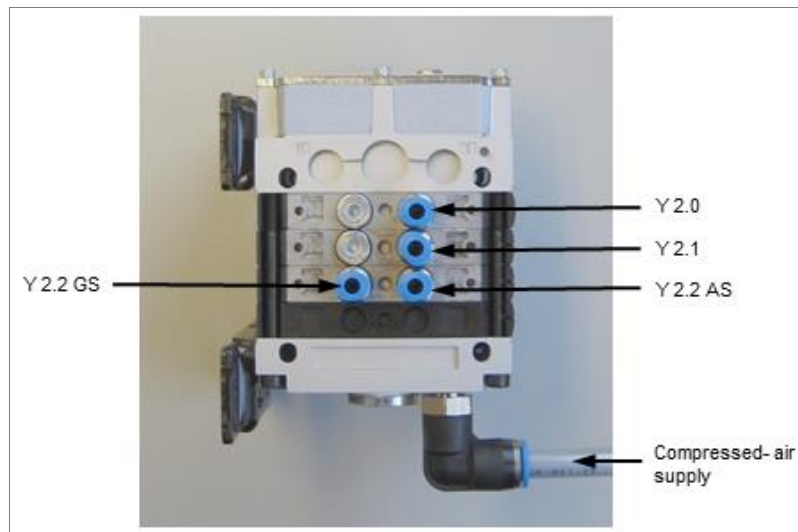


Figure 16: Connecting tubes to valve terminal

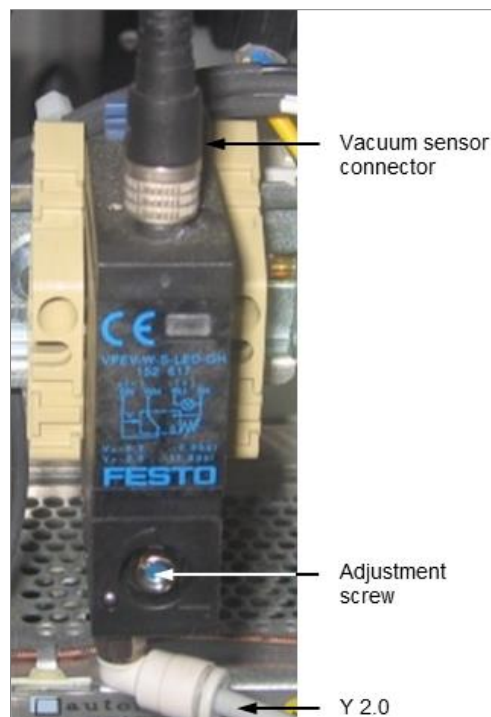


Figure 17: Connecting tubes to vacuum valve terminal



- 3 ► In output sorter's front maintenance cabinet (left side), remove blanking plug from compressed-air manifold and replace with angled screw fitting.
- 4 ► Connect recapper compressed-air tube to angled screw fitting.



Figure 18: Connecting compressed-air tube

- 5 ► Connect one end of Ethernet cable to Net PC connection in output sorter and other end to 16 port Ethernet switch in input sorter.

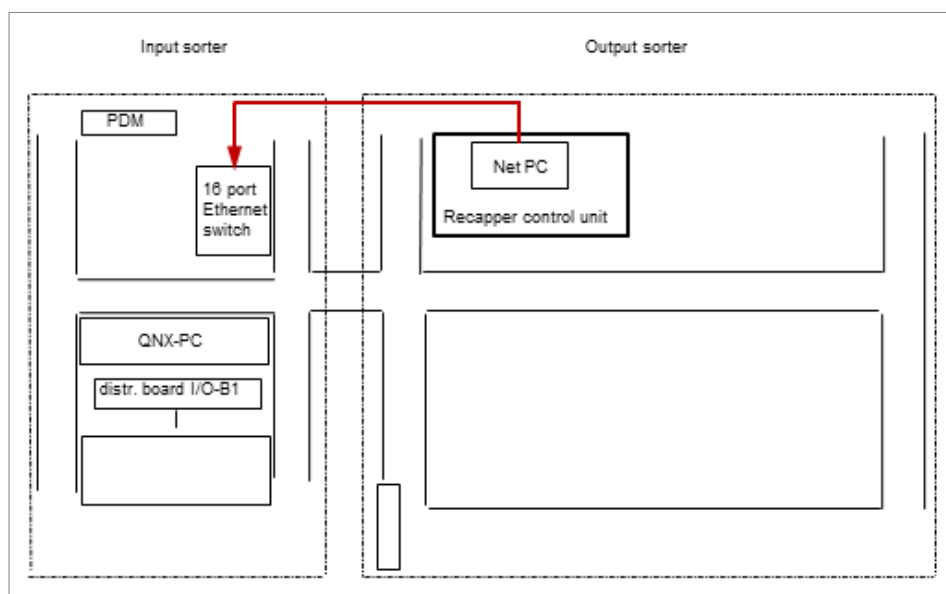


Figure 19: Connecting power supply and Net PC

- 6 ► Connect DC cable to X6 connector block on control unit as listed in [Table 4](#).

Wire	X6 connector block number
24 V	14
5 V	9
GND	5
GND	6

Table 4: DC cable control unit connections

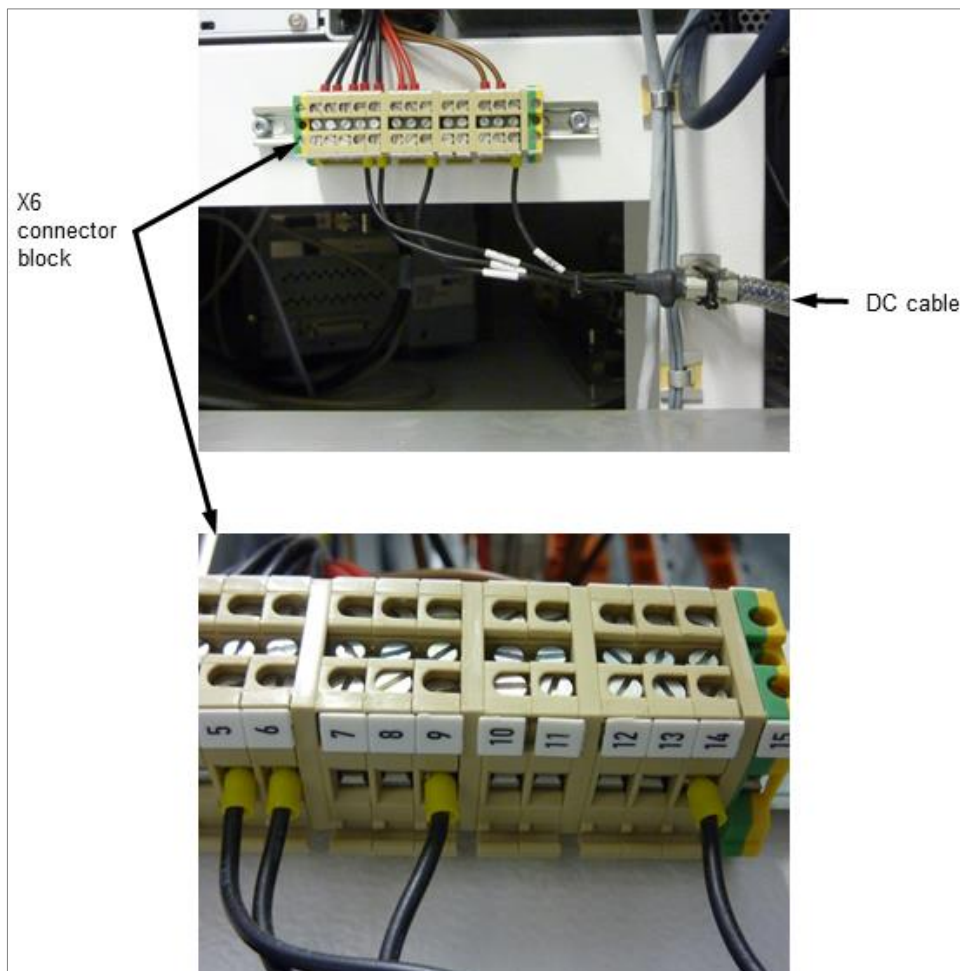


Figure 20: Connecting DC cable to X6 connector block

- 7 ► Connect other end of DC cable to X1 connector block on power distribution module (PDM) in input sorter as listed in [Table 5](#).

Wire	X1 connector block number
24 V	10
5 V	27
GND	43
GND	44

Table 5: DC cable PDM connections

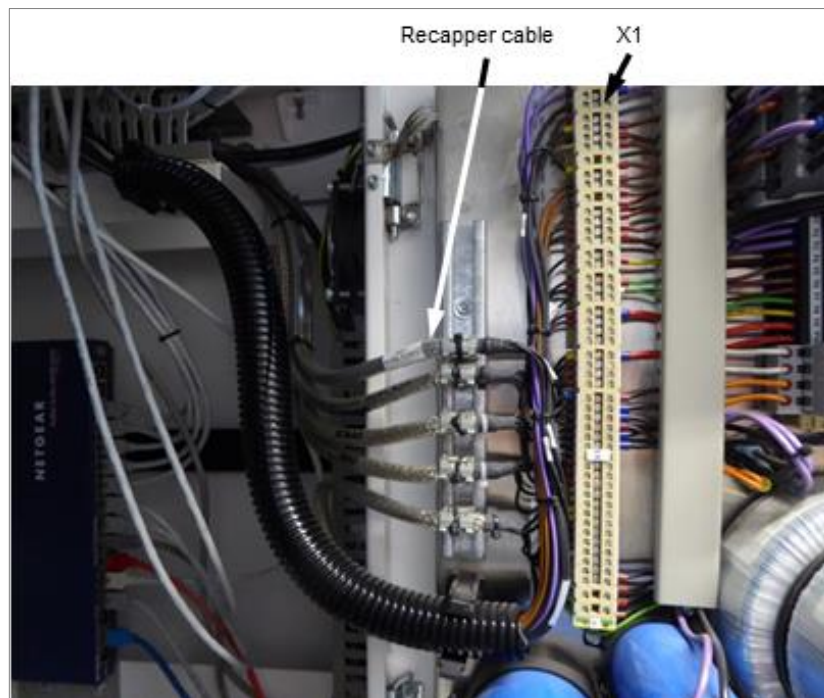


Figure 21: Connecting DC cable to X1 connector block

- 8 ► Connect main recap cable to X2 connector block on PDM in input sorter as listed in [Table 6](#).

Wire	X2 connector block number
blue	71
brown	76
yellow/green	80

Table 6: Main recap cable PDM connections

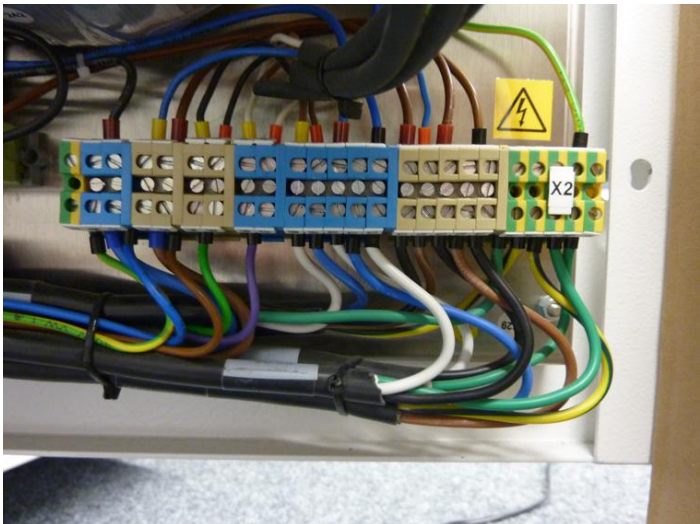


Figure 22: Connecting main recap cable to X2 connector block

- 9 ► Connect other end of main recap cable to X7 connector block in output sorter as listed in [Table 7](#).

Wire	X7 connector block number
yellow/green	1
blue	2
brown	5

Table 7: Main recap cable control unit connections

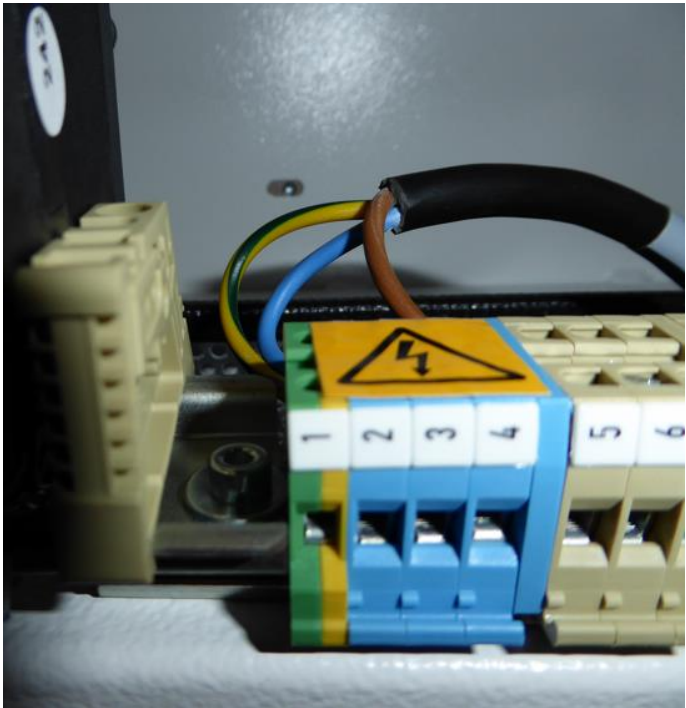


Figure 23: Connecting main recap cable to X7 connector block

- 10 ► Add electrical hazard label to left side of X7 connector block as shown in [Figure 23](#).
- 11 ► Guide cables through cable duct.
- 12 ► Fasten cables with cable ties and reinsert cable duct covers.

## 1.2.5 Updating and adjusting system



### WARNING

#### Electrical safety

Powering on system before performing electrical safety check can result in serious injury or system failure.

- Ensure system is disconnected before performing electrical safety check.

- 
- 1 ► Perform electrical safety check.
  - 2 ► Install foil magazine on recapper module.
  - 3 ► Connect air supply tube.
  - 4 ► Connect mains plug to power supply.
  - 5 ► Power on system.

---

**Note:** Remote recapper activation is performed by manufacturer and obtainable by contacting Global Customer Support (GCS).

---

- 6 ► Contact GCS for manufacturer recapper activation support.
- 7 ► Initialize Net PC in accordance with service manual, chapter Electronics ► Net PC Module ► Initialization of a Net PC Module.
- 8 ► Adjust vacuum valve in accordance with service manual, chapter Pneumatics ► Recapping module ► Vacuum valve ► Check the settings.
- 9 ► Adjust recapper and configure system in accordance with service manual, chapter Mechanics ► Recapping module, follow all subchapters up to “Verifying the settings of the sealing module”.
- 10 ► Change settings of work cycles to ensure tubes will be recapped.
- 11 ► Perform system test run with newly installed primary recapper module in accordance with service manual, chapter Installation ► Installation on site ► Test run of the system.

## 1.2.6 Performing final tasks

- 1 ► Install protective cover over front and rear of recapper and secure with screws.
- 2 ► Install output sorter's rear cover and panel and secure with screws.
- 3 ► Close output sorter's maintenance cabinet front and rear doors.
- 4 ► Attach Danger label to output sorter's rear maintenance cabinet door.

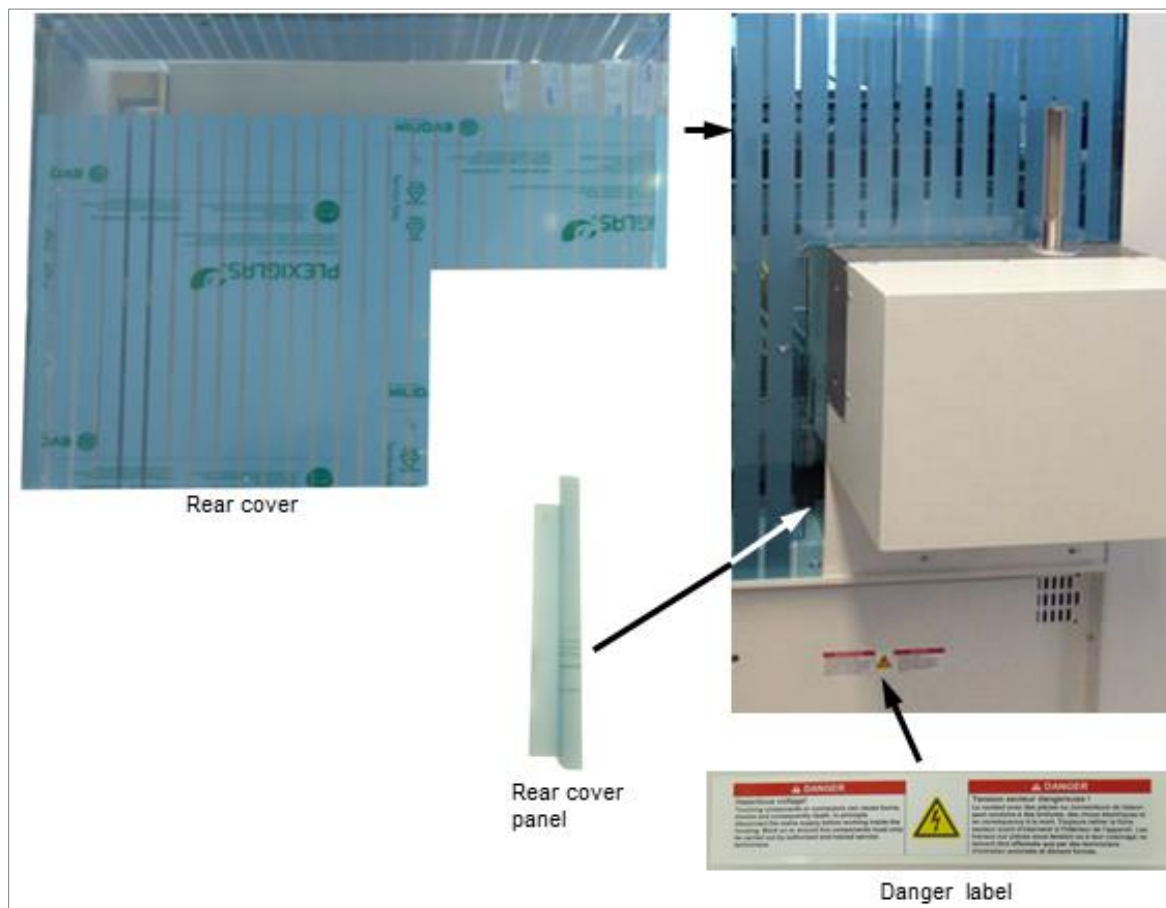


Figure 24: Installing output sorter's rear cover and panel