

# Recycler guide, TOMRA T100

90361000



Original

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## About this guide

This product contains electrical and electronic components that should be recycled by a specialist electronics recycler. Disposal and recycling of products containing electrical and electronic components may be governed by national environmental legislation.

This guide provides information pertaining to the decommissioning and recycling of TOMRA reverse vending machines and backroom equipment pursuant to the European Community directive 2012/19/EU on waste electrical and electronic equipment (WEEE).

This information shall identify the different EEE components and materials, as well as the location of dangerous substances and mixtures in EEE so that they can be properly handled. If you have any questions or feedback regarding this guide, please contact us on [www.tomra.com](http://www.tomra.com).

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## Disclaimer

This Recycler Guide is intended only for information purposes. It does not guarantee the composition of any product or that the product will retain a specific composition for a specific period.

The Recycler Guide provides information on the disassembly process of a product to assign the components to the correct recycling channels. The values given are only valid in this specified context and cannot be used to create the environmental compatibility assessment of a product.

Reuse of disassembled components is not permitted. TOMRA therefore assumes no liability for errors or consequences that may result from the use of this information for anything other than assigning the product components to the correct recycling channels.

# Safety instructions

## Introduction

TOMRA Systems ASA is not liable for any damage caused by incorrect actions taken during the disassembly of the product/system.

The recycler is responsible for ensuring the safety of its employees performing disassembly of TOMRA products.







## Safety symbols

Safety symbols are used on the safety labels on TOMRA machines. The table below lists the commonly used symbols and explains what they mean. Not all warnings will be relevant for all products.






**NOTE:** These symbols are designed for machine use during operation. Not all warnings may be relevant for the purpose of recycling but may be useful to understand the components that are being disassembled.







**Table 1: Mandatory actions**

Symbol	Description
	Refer to the instructions.
	Use protective gloves.
	Use ear protection.
	Use eye protection.
	Switch off power before carrying out maintenance or repair.
	Disconnect the mains power cable before carrying out maintenance or repair.

**Table 2: Prohibited actions**

Symbol	Description
	Do not reach in.
	Do not clean with a hose or spray with water.
	Do not step on this surface.

**Table 3: Warnings**

Symbol	Description
	General warning sign. Indicates a warning, caution or presence of a hazard, specified by text or symbol.
	Electricity hazard: <ul style="list-style-type: none"> <li>• Disconnect power before opening or handling</li> <li>• High voltage present</li> <li>• No serviceable parts inside</li> </ul>
	The system can start without warning.
	Drawing in and crush hazard. Keep hands and clothes clear.
	Indicates an overhead obstacle.
	Tip-over hazard. The machine is top-heavy and may tip over when transported.

# Disassembly instructions

## Disassemble the TOMRA T100 Bottle

**Part ID**

TOMRA T100 (90361000)

**Recommended tools**

- Socket wrenches 10, 13 and 17 mm
- Torx screwdrivers T20, T25 and T30
- 4 mm Allen key
- Crosshead screwdrivers PZ1 and PZ2
- Side-cutting pliers



Disassemble all parts and sort the components per material types listed below. Do not mix material types.



**NOTE:** Circuit boards shall be destroyed/grinded.

### Main parts



1. Door
2. Bottle unit
3. Lower cabinet

## Material types



**NOTE:** There are variants of this machine, minor weight differences may occur.

Material	Weight
Steel and iron	60.0 kg
Aluminum	1.0 kg
Electrical, electronic and electromechanical (EEE) parts	15.0 kg
Plastic	6.0 kg
Rubber	0.5 kg
Float glass	4.5 kg

## Recommended disassembly procedure

### Turn off power

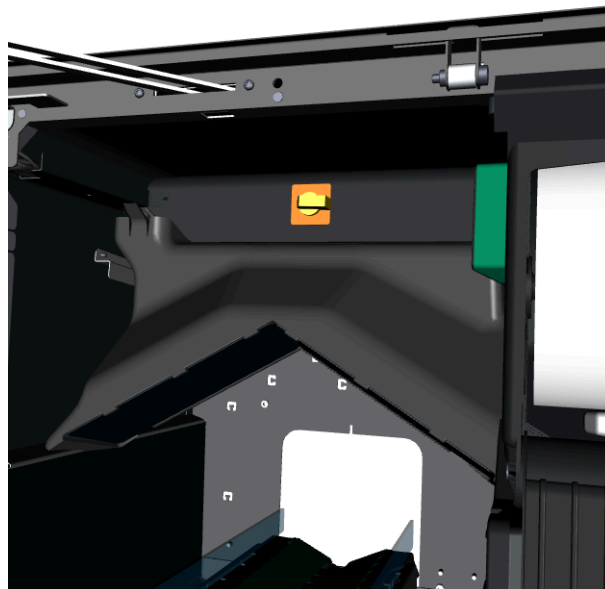


**WARNING:** Before you start disassembling the machine, disconnect the main power source from all system modules.

If you cannot visually confirm the power is disconnected, you must use a multimeter and measure between the ground and all live wires to confirm there is no power in the component.

Make sure the main power source stays disconnected while you complete the disassembly.

Working on components connected to power can cause serious injury or death to personnel.



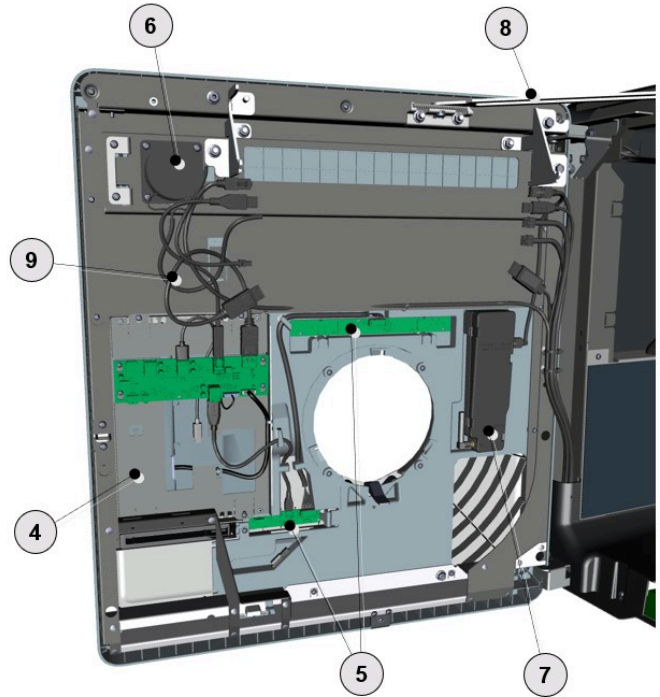
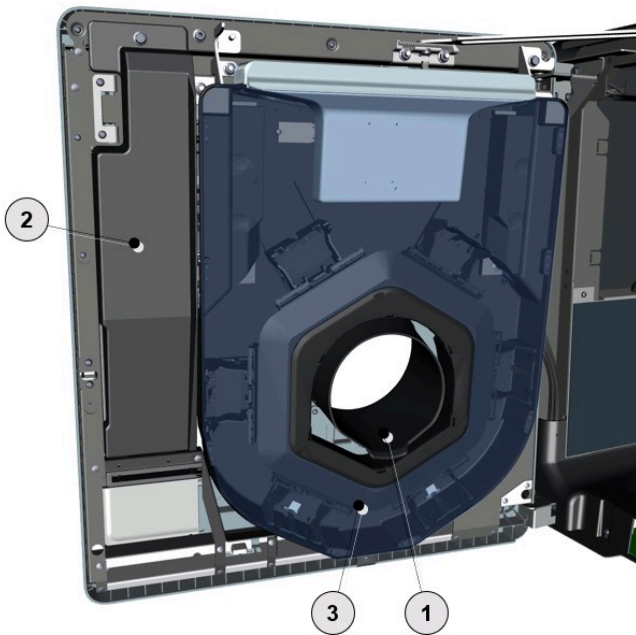
### Step

- 1 Turn off power, then disconnect and remove the main power cable from the power source and from the machine.

### Materials

EEE parts

**Disassemble the door**



**Step**

- 1 Remove the infeed cone.
- 2 Remove the cable cover.
- 3 Disconnect all the cables from the OneRing reader, then remove the OneRing reader and the protective plate. Separate the materials. Make sure to remove and recycle the glass cover separately.
- 4 Disconnect the cables and remove the MMI unit. Separate the materials.
- 5 Disconnect the cables and remove the proximity sensor and the LGC board.
- 6 Remove the speaker and remove the cables connected to the speaker and the door switch.
- 7 Disconnect the cables and remove the GSMU/DSMD unit, if applicable. Separate the materials.



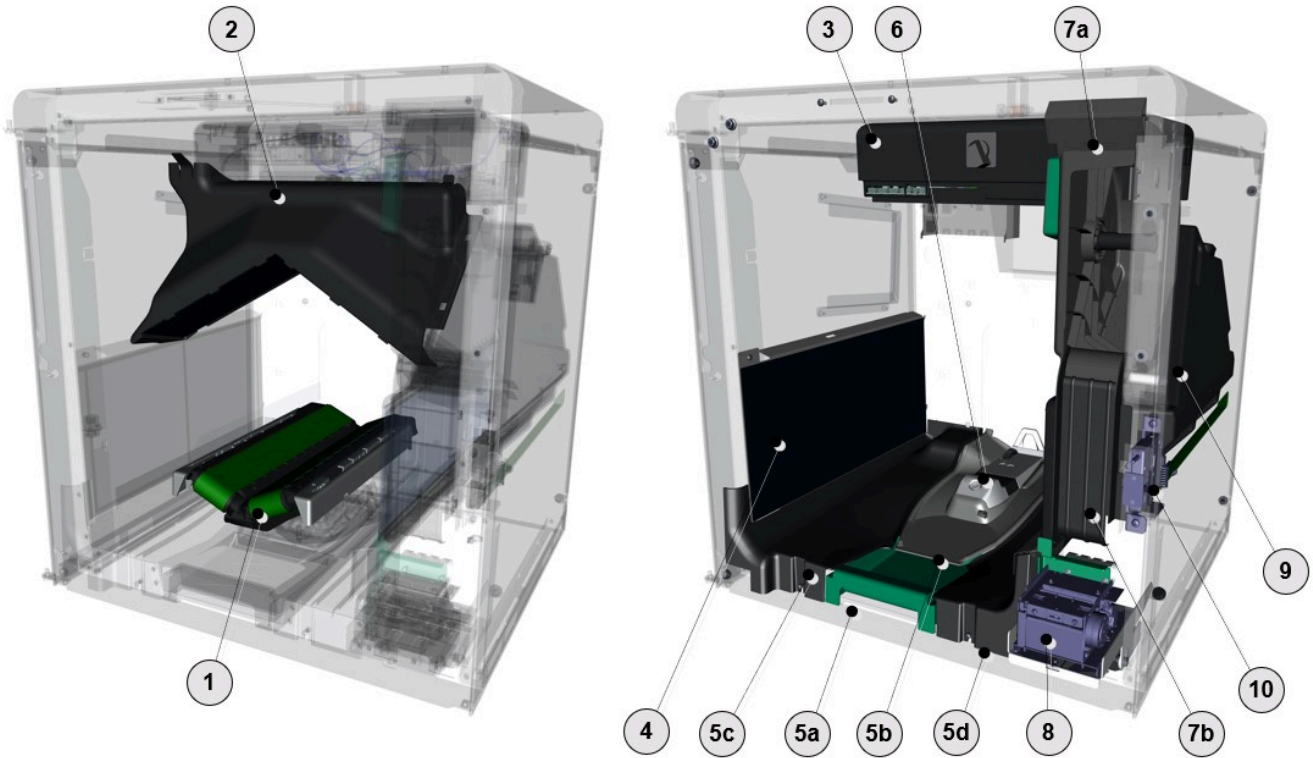
**NOTE:** Germany only.

- 8 Remove the door stopper.
- 9 Remove the cables.
- 10 Remove the door. Separate the materials.

**Materials**

- Plastic
- Plastic
- Steel, EEE parts (cables, circuit boards), plastic, glass
- Steel, EEE parts (cables, circuit boards), plastic, glass
- EEE parts (cables, circuit boards)
- Steel, EEE parts (cables)
- EEE parts (cables, circuit boards), plastic
- Steel, plastic
- EEE parts (cables)
- Steel, aluminium, plastic

**Disassemble the bottle unit**



**Step**

- 1** Remove the infeed conveyor. Separate the materials.
- 2** Remove the arch reflector. Separate the materials.
- 3** Disconnect all the cables from the power box, both at the front and at the rear, then remove the power box. Disassemble the power box and separate the materials.
- 4** Remove the shape reflector. Separate the materials.
- 5** Remove the spill tray, the center floor-plate and the left and right floor plates.
- 6** Remove the infeed docking-station. Separate the materials.
- 7** Remove the paper holder and the paper guide.
- 8** Remove the printer.
- 9** Remove the shape-recognition unit with camera. Separate the materials.
- 10** Remove the door lock.
- 11** Remove the cables.
- 12** Dispose of the bottle unit frame and the lower cabinet.

**Materials**

- Steel, EEE parts (circuit board), plastic
- Plastic
- Steel, aluminium, EEE parts (cables, circuit boards), plastic
- Steel, plastic
- Plastic
- Steel, aluminium, EEE parts (cables, circuit boards, motor), plastic
- Plastic
- Steel, EEE parts (cables, circuit board)
- Steel, EEE parts (circuit board), plastic
- Steel, EEE parts (cables, circuit board)
- EEE parts (cables)
- Steel

# Disassemble the TOMRA T100 Bottle Crate

**Part ID**

TOMRA T100 (90361000)

**Recommended tools**

- Socket wrenches 10, 13 and 17 mm
- Torx screwdrivers T20, T25 and T30
- 4 mm Allen key
- Crosshead screwdrivers PZ1 and PZ2
- Side-cutting pliers

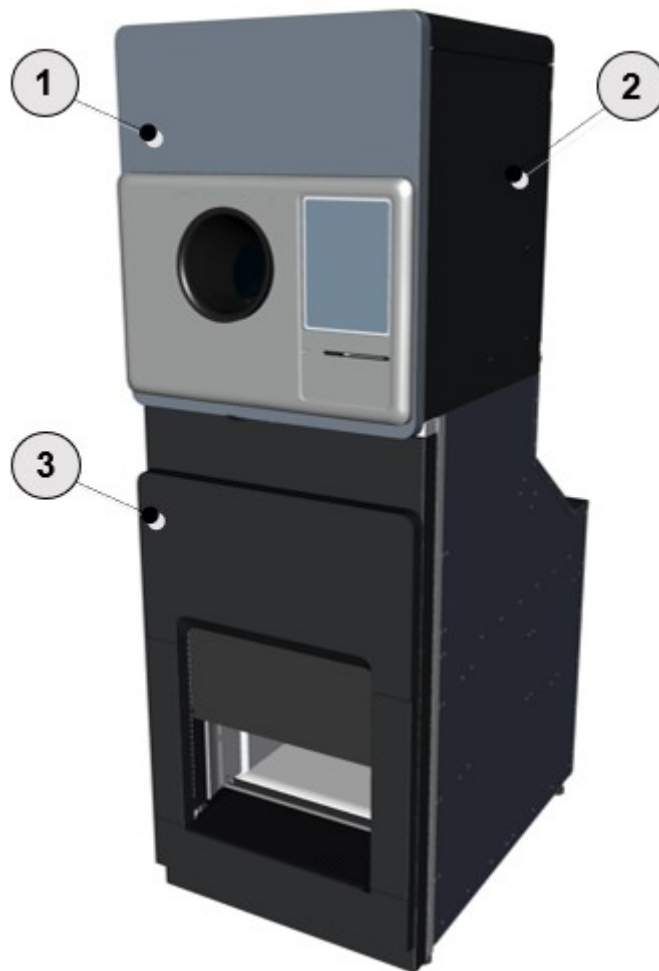


Disassemble all parts and sort the components per material types listed below. Do not mix material types.



**NOTE:** Circuit boards shall be destroyed/grinded.

## Main parts



1. Door
2. Bottle unit
3. Crate unit

**Material types**



**NOTE:** There are variants of this machine, minor weight differences may occur.

<b>Material</b>	<b>Weight</b>
Steel and iron	135.0 kg
Aluminum	1.0 kg
Electrical, electronic and electromechanical (EEE) parts	25.0 kg
Plastic	15.0 kg
Rubber	2 kg
Float glass	12.0 kg

**Recommended disassembly procedure**

**Turn off power**



**WARNING:** Before you start disassembling the machine, disconnect the main power source from all system modules.

If you cannot visually confirm the power is disconnected, you must use a multimeter and measure between the ground and all live wires to confirm there is no power in the component.

Make sure the main power source stays disconnected while you complete the disassembly.

Working on components connected to power can cause serious injury or death to personnel.

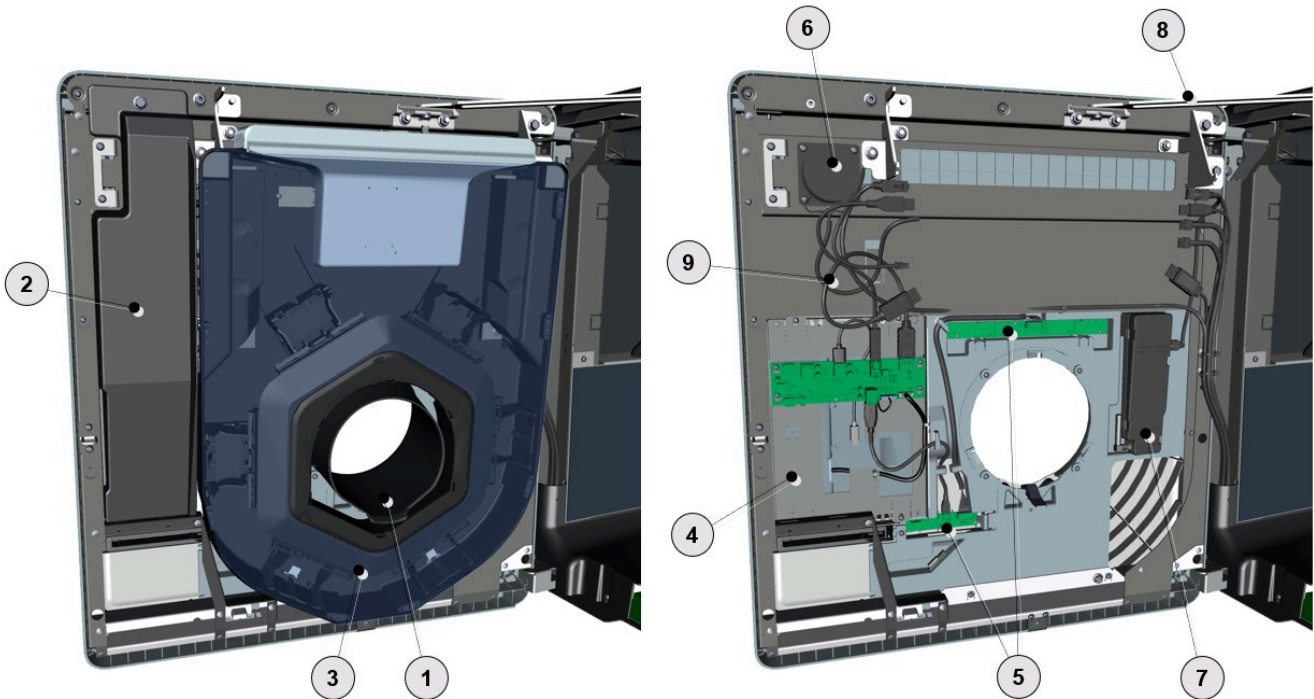


**Step**

**Materials**

- |   |                  |
|---|------------------|
| <p><b>1</b> Turn off power, then disconnect and remove the main power cable from the power source and from the machine.</p> | <p>EEE parts</p> |
|---|------------------|

**Disassemble the door**



**Step**

- 1 Remove the infeed cone.
- 2 Remove the cable cover.
- 3 Disconnect all the cables from the OneRing reader, then remove the OneRing reader and the protective plate. Separate the materials. Make sure to remove and recycle the glass cover separately.
- 4 Disconnect the cables and remove the MMI unit. Separate the materials.
- 5 Disconnect the cables and remove the proximity sensor and the LGC board.
- 6 Remove the speaker and remove the cables connected to the speaker and the door switch.
- 7 Disconnect the cables and remove the GSMU/DSMD unit, if applicable. Separate the materials.



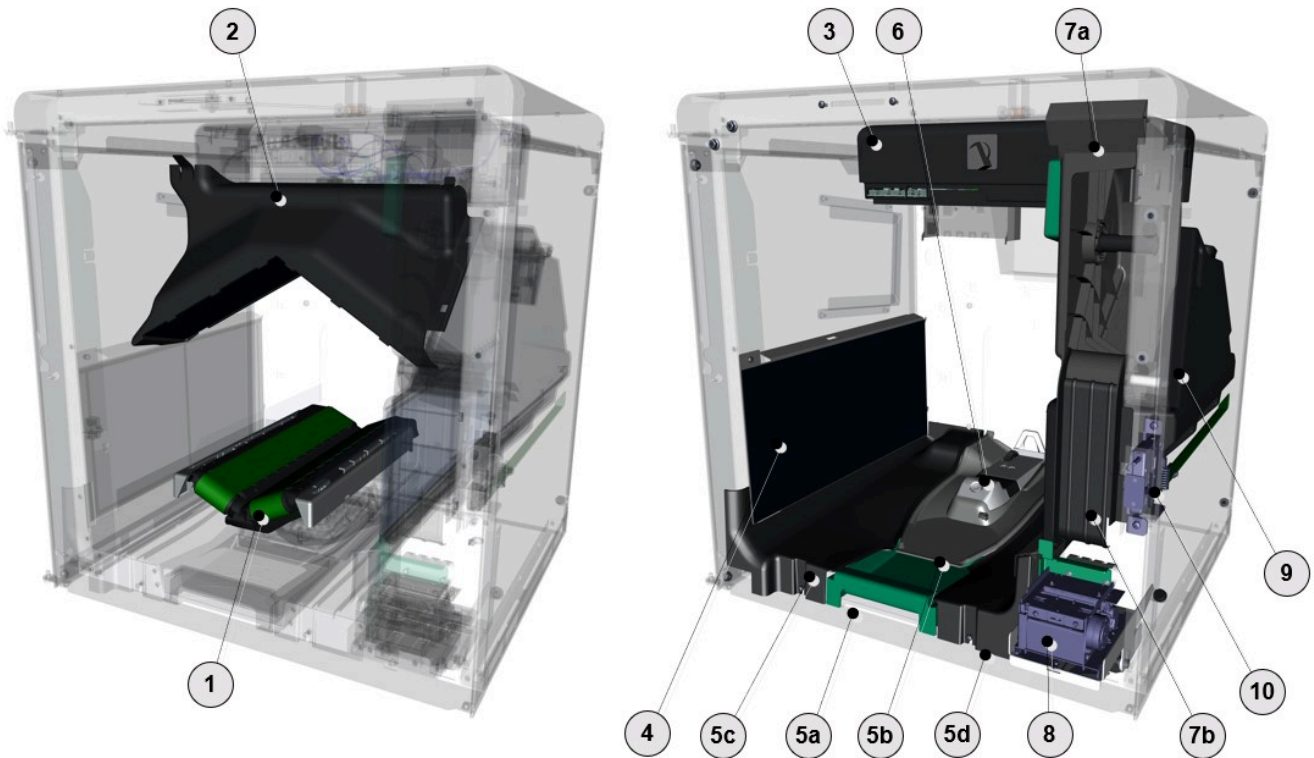
**NOTE:** Germany only.

- 8 Remove the door stopper.
- 9 Remove the cables.
- 10 Remove the door. Separate the materials.

**Materials**

- Plastic
- Plastic
- Steel, EEE parts (cables, circuit boards), plastic, glass
- Steel, EEE parts (cables, circuit boards), plastic, glass
- EEE parts (cables, circuit boards)
- Steel, EEE parts (cables)
- EEE parts (cables, circuit boards), plastic
- Steel, plastic
- EEE parts (cables)
- Steel, aluminium, plastic

**Disassemble the bottle unit**



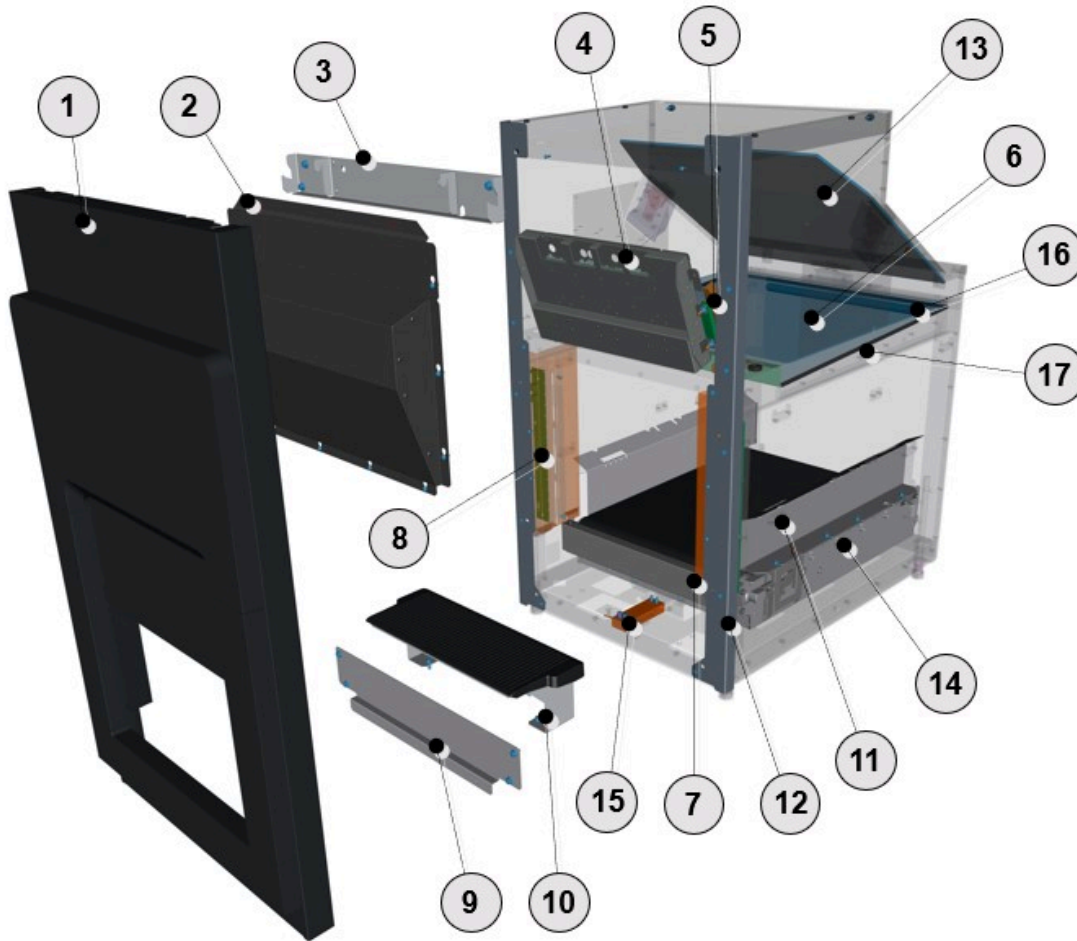
**Step**

- 1 Remove the infeed conveyor. Separate the materials.
- 2 Remove the arch reflector. Separate the materials.
- 3 Disconnect all the cables from the power box, both at the front and at the rear, then remove the power box. Disassemble the power box and separate the materials.
- 4 Remove the shape reflector. Separate the materials.
- 5 Remove the spill tray, the center floor-plate and the left and right floor plates.
- 6 Remove the infeed docking-station. Separate the materials.
- 7 Remove the paper holder and the paper guide.
- 8 Remove the printer.
- 9 Remove the shape-recognition unit with camera. Separate the materials.
- 10 Remove the door lock.
- 11 Remove the cables.
- 12 Dispose of the bottle-unit frame.

**Materials**

- Steel, EEE parts (circuit board), plastic
- Plastic
- Steel, aluminium, EEE parts (cables, circuit boards), plastic
- Steel, plastic
- Plastic
- Steel, aluminium, EEE parts (cables, circuit boards, motor), plastic
- Plastic
- Steel, EEE parts (cables, circuit board)
- Steel, EEE parts (circuit board), plastic
- Steel, EEE parts (cables, circuit board)
- EEE parts (cables)
- Steel

**Disassemble the crate unit**



Step	Materials
1 Remove the front cover. Separate the materials.	Steel, plastic
2 Remove the front shield.	Steel
3 Remove the top front-bracket.	Steel
4 Disconnect all the cables from the main camera. Remove the main camera and separate the materials.	Steel, EEE parts (cables, circuit boards), plastic
5 Remove the spacers and the camera brackets.	Steel
6 Remove the lens.	Plastic
7 Remove the left and right inlet guides.	Steel
8 Disconnect the cables from the light-curtain boards. Remove the light-curtain boards.	EEE parts (cables, circuit boards)
9 Remove the bottom front-cover.	Steel
10 Remove the entry plate. Separate the materials.	Steel, plastic
11 Remove the side guides at the inside.	Steel
12 Remove the left and right front corner-brackets.	Steel

Step	Materials
<b>13</b> Remove the mirror. Remove the protective elements from the mirror. Separate the materials.	Glass, rubber, plastic
<b>14</b> Remove the crate conveyor. Separate the materials.	Steel, EEE parts (cables, circuit boards, motor), plastic
<b>15</b> Remove the load cells.	Steel, EEE parts (cables)
<b>16</b> Remove the logo camera. Separate the materials.	Steel, EEE parts (cables, circuit boards), plastic, glass
<b>17</b> Remove the small bracket in front of the glass plate, then remove the glass plate. Separate the materials.	Steel, glass
<b>18</b> Dispose of the crate-unit frame.	Steel



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