

*Translation of the original operating instructions*

## **Vacuum pump for lamination**

**755E600=110**

**755E600=220**

**755E600=220X60**

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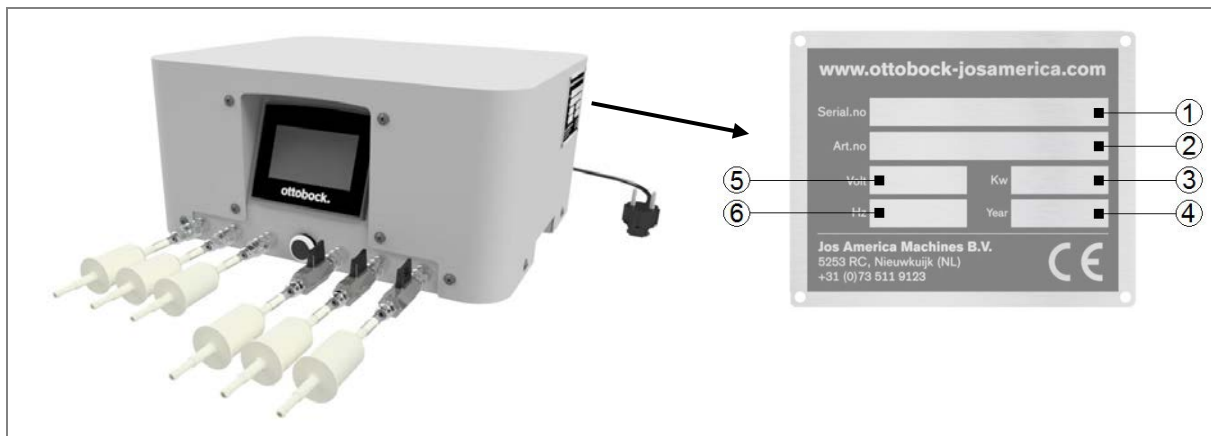
# 1. Important information on the document

	<p><b>WARNING</b></p> <p>Operating this product without following the operating instructions may result in death or very serious injuries as a result of following improper procedures.</p> <ul style="list-style-type: none"> <li>▶ Study the manual if you are to work with this product.</li> <li>▶ Familiarise yourself with the structure and contents of the manual by reading the "<b>Scope of the document</b>" section.</li> <li>▶ It is important to go through the "<b>Product description</b>" section and the safety instructions in sections relating to the work to be performed.</li> <li>▶ Always keep this manual with the product.</li> </ul>
	<p><b>The information set out opposite this symbol is intended to prevent serious injuries and/or death; always read this information carefully. The activity is only to be continued if the correct safety precautions have been taken.</b></p>

## 1.1 Scope of the document

This document relates to one or more of the products below:

Reference number	Machine name	Voltage
755E600=110	Vacuum pump for lamination	110V/60Hz
755E600=220	Vacuum pump for lamination	220V/50Hz
755E600=220X60	Vacuum pump for lamination	220V/60Hz



Data plate legend	
1	Product serial number
2	Product article number
3	Product power in kW
4	Product year of manufacture
5	Voltage in volts
6	Frequency in Hz

## ***1.2 Document release date***


<b>Release date [year-month-day]</b>	<b>Version number</b>
2016-10-26	1643

## ***1.3 Original operator's manual information***

This manual was created as the original operator's manual in the Dutch language. This manual in any other language is a translation of the original.

## 2. Product description

### 2.1 *Intended use*

	<p><b>WARNING</b></p> <ul style="list-style-type: none"> <li>▶ Use this product exclusively for the intended use.</li> <li>▶ The manufacturer is only liable to the extent that the 755E600=* vacuum pump is used in accordance with the instructions.</li> <li>▶ You are advised to maintain this product in accordance with the manual.</li> </ul>
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The product was designed for the following areas of application:

#### **Intended production methods**

- ▶ The production of thin-walled castings from casting resin with a constant wall thickness.
- ▶ The machine is to be used to extract only air, gases and vapours. The machine is not intended for the extraction of liquids.

#### **Intended tools**

- ▶ Ottobock | Jos America tools suitable for both the production method and the material from which the workpiece is made

#### **Intended installation**

- ▶ Orthopaedic workshops

#### **User training level**

- ▶ Only to be used by qualified employees.
- ▶ All maintenance and repair activities are to be performed exclusively by authorised (Ottobock | Jos America) service technicians in accordance with the statutory regulations. During such activities the power must be off with the plug removed from the socket.
- ▶ The machine may only be used by **one person** at a time.
- ▶ The user may be placed in danger by incorrect use of the product or by repairs performed by unauthorised personnel.
- ▶ The manufacturer can accept no liability for loss or damage caused by improper use.

## 2.2 *Explanation of symbols on the product*

For all symbols used in this manual, see the “Warning symbols” section.

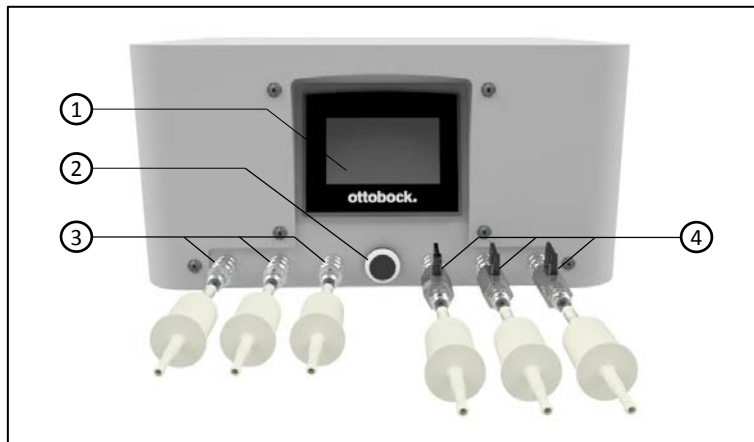
## 2.3 *Improper use*

The product is not intended for the following unauthorised applications:

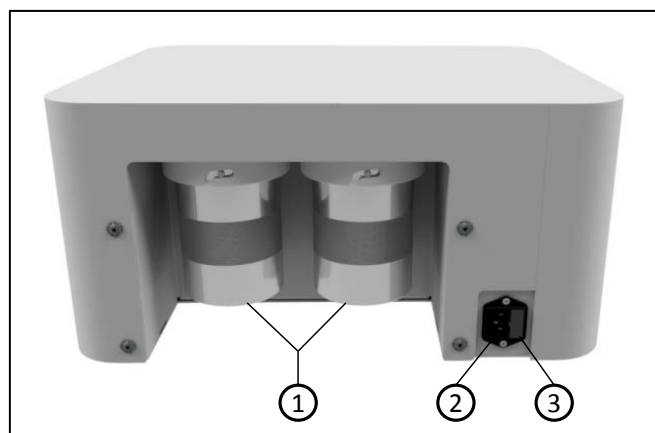
- Improper use is any use that is not listed in the "**Intended use**" section.



## 2.4 Product overview



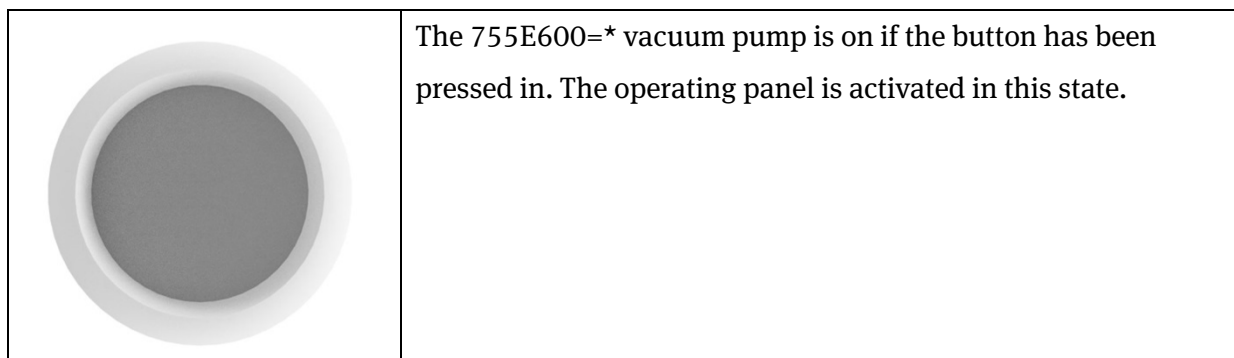
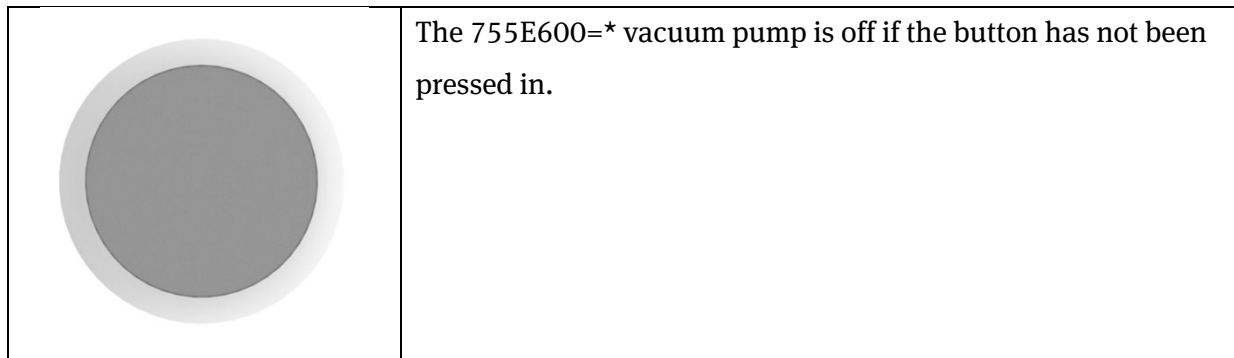
Product overview			
1	Operating panel (touchscreen)	3	Vacuum connections 1
2	On/off switch	4	Vacuum connections 2



Product overview			
1	Water separators	3	Fuse (250V 4A /F 5x20mm)
2	Power socket	-	

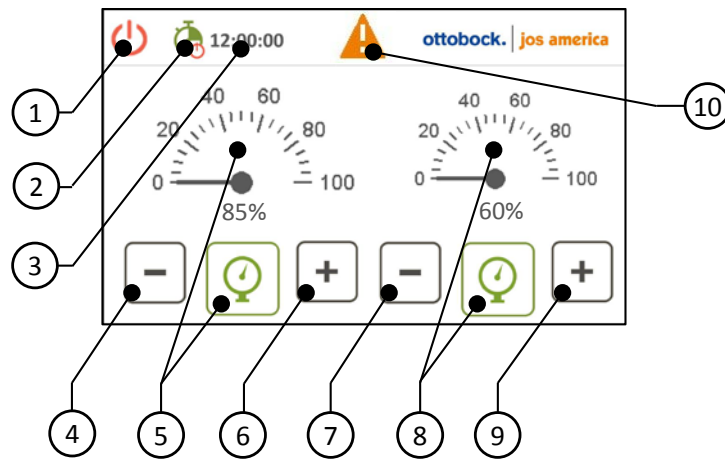
## 2.5 *Operating elements*

### 2.5.1 **On/off switch**




## 2.5.2 Operating panel

The 755E600=\* vacuum pump is equipped with touchscreen controls. The pump is operated through the screen illustrated below which is displayed when the 755E600=\* vacuum pump is switched on.

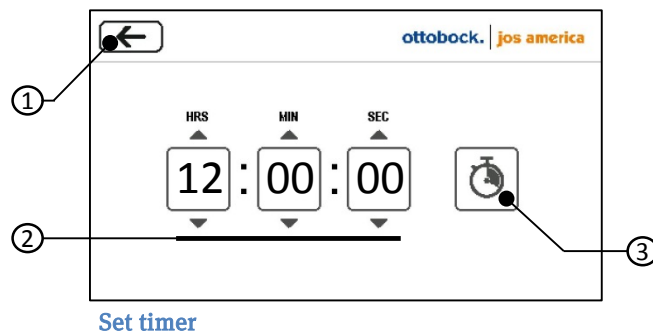


Operating panel legend	
1	Switches the vacuum pump on at the specified vacuum percentages.
2	Opens the timer menu/Switches timer off (if activated)
3	Remaining time on timer (if activated)
4	Decreases vacuum percentage for left-hand connections.
5	Activates vacuum for left-hand connections.
6	Increases vacuum percentage for left-hand connections.
7	Decreases vacuum percentage for right-hand connections.
8	Activates vacuum for right-hand connections.
9	Increases vacuum percentage for right-hand connections.
10	Maximum water level alert during lamination.

	<p>► If the maximum water level alert (10) is displayed during lamination, the vacuum pump will continue to function. However, if you press buttons five or eight while this alert is being displayed, the pump will turn off and will not resume operation until the water separators have been emptied.</p>
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### 2.5.3 Timer function

The 755E600=\* is equipped with a timer function. This function allows the workpiece that is to be laminated to be held under vacuum for a pre-set period of time. After this pre-set period, the 755E600=\* will switch into the stand-by mode. Before you can use the timer function, you must press the timer function button on the main menu. The following screen will appear.



Operating panel legend	
1	Return to main menu (cancels timer function).
2	Sets time on the timer (hours : minutes : seconds).
3	Activates timer.

After the button “Activates timer” is pressed the main menu will reappear. In the main menu the remaining time is shown before the vacuum pump will automatically deactivate.

### 3. Transport




- ▶ Protect the product from moisture and extreme temperature shifts.
- ▶ To avoid contamination during transport, leave the product in the original packaging or cover it with protective film.

### 4. Storage









- ▶ Before storing the product, read the “**Technical data**” section.
- ▶ Protect the product from moisture and extreme temperature shifts.
- ▶ To avoid contamination during storage, leave the product in the original packaging or cover it with protective film.

## 5. Unpacking


	▶ Check that the delivery is complete.
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### 5.1 Inspecting the delivered contents

The following products are included in the scope of delivery:

Product contents			
<b>1x</b>	Vacuum pump	755E600=*  	
<b>1x</b>	Operator's manual DE Operator's manual EN	JAM-16.10.0321.0 JAM-16.10.0322.0  	
<b>3x</b>	Connecting tubes with filter and quick-action coupling.	755Z39=1  	
<b>3x</b>	Connecting tubes with filter, ball valve and quick-action coupling.	755Z39=2  	
<b>1x</b>	Protective cover touchscreen	755Z44  	
One of the following components, depending on the voltage version supplied:			
<b>1x</b>	Power cable for 755E600=110	110V/60Hz	
	Power cable for 755E600=220	230V/50Hz	
	Power cable for 755E600=220x60	230V/60Hz	

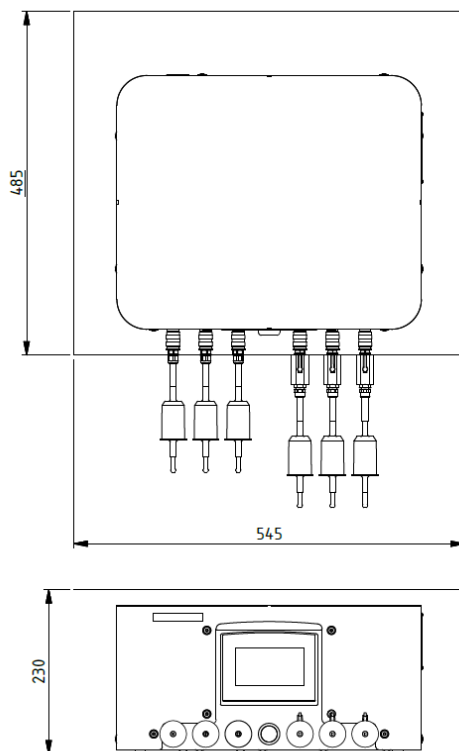
## 6. Setup

	<p><b>ATTENTION</b></p>
	<p>Placing the product on an unsuitable surface may result in the product being irreparably damaged.</p>

Ensure that the 755E600=\* vacuum pump is standing level in order to avoid alerts relating to the water level. In the worst case, the internal pump may suck water out causing irreparable damage.


The 755E600=\* vacuum pump should be installed on a flat and, most importantly, firm surface. Sufficient space should be left around the pump to allow for its operation and maintenance and for the heat to be dissipated. The surface must have a minimum load capacity equal to the weight of the vacuum pump plus 10%. The weight of the product can be found in the “**Technical data**” section of this document.

The 755E600=\* vacuum pump is delivered ready-to-use and is not suitable for permanent installation. The space required is:



Width: 545 mm  
 Depth: 485 mm  
 Height: 230 mm

## 6.1 Connecting the product

	<p><b>ATTENTION</b></p> <p>Check that the voltage indicated on the nameplate matches the mains voltage.</p>
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Once the 755E600=\* vacuum pump has been positioned it can be connected up.

The following must be connected:

- Power supply
- Connection tubes with filters

### 6.1.1 Power supply

The 755E600=\* vacuum pump must be attached to the mains supply using the plug supplied.

The 755E600=\* vacuum pump can be supplied in three different voltage versions. Ensure that you have obtained the correct version for your country.

The list below indicates the different versions and the mains supply for which they are suitable:

Version:	Suitable for:
755E600=110	110V, 1Ph+N+PE 60Hz
755E600=220	230V, 1Ph+N+PE 50Hz
755E600=220x60	230V, 1Ph+N+PE 60Hz



### 6.1.2 Connection tubes with filters

The (3) filters and the (3) filters with fitted ball valves are equipped with a quick-action coupling which can be plugged directly into the vacuum pump by simply pressing it in.



Installing the connection tubes with filters

### 6.1.3 Protective film for the touchscreen

**NOTE:** The protective film for the touchscreen is supplied with the product but is not fitted to the screen when delivered.

The protective film supplied with the product is intended to protect the touchscreen of the 755E600=\* from damage. The protective film can prevent scratches on the screen but is also resistant to chemicals.

To fit the protective film, follow the instructions included with the protective film's packaging.

## 7. Technical data

Name: Vacuum pump 755E600=\*

Year of manufacture: See nameplate

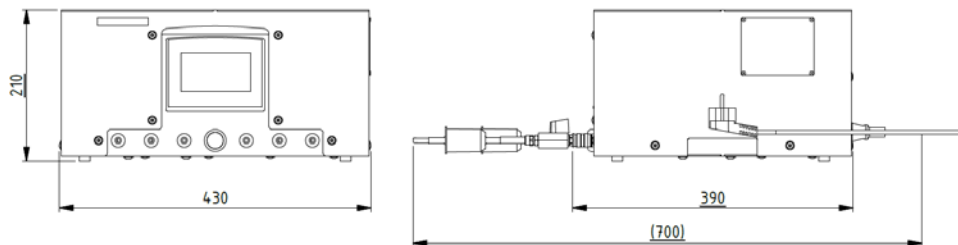
Weight: 17,5 kg

Dimensions:

Width: 430 mm

Depth: 390 (700) mm

Height: 210 mm



	755E600=110	755E600=220	755E600=220x60
Power:	0.11 kW	0.11 kW	0.11 kW
Voltage:	110 V	230 V	230 V
Frequency:	60 Hz	50 Hz	60 Hz
Current:	1 A	0.48 A	0.48 A

Surface finish: The product is finished with a paint layer of colour RAL 9003 (Signal white).

Ambient temperature: 5°C - 40°C

Installation data: The surface must be smooth and flat.

## 8. EC declaration of conformity

Manufacturer: Jos America Machines B.V.  
Industriepark "het Hoog"  
Mandenmaker 14 5253 RC,  
Nieuwkuijk, The Netherlands

Hereby declares that the vacuum pump for lamination manufactured by us complies fully with the following directives:

<b>2006/42/EC</b> <b>2014/35/EU</b>	General machinery directive Low voltage directive
<b>2011/65/EU</b>	Restrictions on the use of certain hazardous substances in electrical and electronic equipment

and complies with the following standards:

<b>EN-ISO 12100:2010</b>	Safety of machinery – Terminology, general principles for design.
<b>EN-ISO 349:1993+A1:2008</b>	Safety of machinery – Minimum gaps to avoid crushing of parts of the human body.
<b>EN-ISO 13850:2015</b>	Safety of machinery – Emergency stop devices, functional aspects, design principles.
<b>EN 60204-1:2006+A1:2009</b>	Safety of machinery – Electrical equipment of machines. General requirements.

Nieuwkuijk,  
08 December 2016



A.H.M. Boom,  
Manager of Jos America Machines B.V.

## 9. Use

	<p>Safety measures, including the following, must be taken during use:</p> <ul style="list-style-type: none"><li>▶ Personnel trained to use the product.</li></ul>
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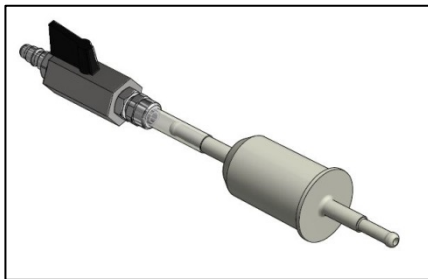
This section describes the daily use of the 755E600=\* vacuum pump. The product is only suitable for applications as described in the "**Intended use**" section.

## 9.1 *Connecting the product*

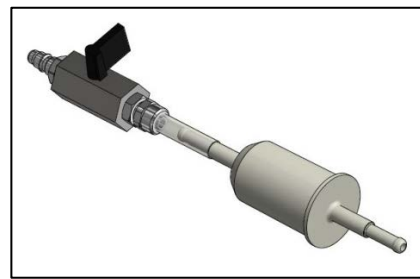
The PVC connection tubes running from the workpiece that is to be laminated are connected to the filters located at the front of the machine.

## 9.2 *Ball valves*

For certain applications it is necessary to restrict the air flow. This is the function of the three ball valves that are supplied. In addition to restricting the air flow, the ball valves can also be used to block off the flow entirely (see the illustration below).



Ball valve open



Ball valve closed

## 9.3 Emptying the water separators

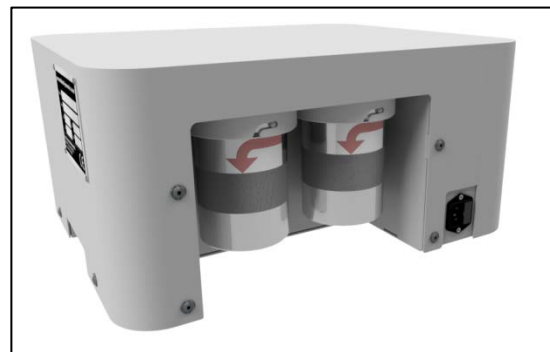


- ▶ The vacuum pump will not turn on until the water separators have been emptied.

When the icon shown in the illustration below is displayed on the operating panel, the water separators located at the rear of the machine must be emptied. This icon will be displayed when the water in the water separators has reached its maximum level.



Empty the water separators



Removing the water separators

The water separators should also be emptied and cleaned if the 755E600=\* vacuum pump is not in use for a number of days.

The water separators are attached by means of a bayonet fitting. To detach them, they must be rotated in the direction indicated by the arrow (see the illustration below). They can then be removed, emptied and, if necessary, cleaned.

## 9.4 *Installing the water separators*



- ▶ The vacuum pump will not engage until the water separators are emptied.
- ▶ Do not overtighten the water separators (the pins should not reach the end of the slots).

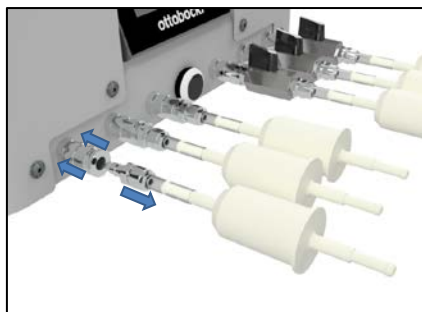
The water separators are attached by means of a bayonet fitting. Two pins are located on the cylinder which fit into the slots on the cover. To attach the cylinder, the pins located on the cylinder must be pressed into the slots and the cylinder then rotated in the direction indicated by the arrow until secure (see the illustration below).



Securing the water separators

## 9.5 *Detaching the filters*



To detach the connection tubes from the vacuum pump, grip the quick-action coupling by the ring then press it towards the machine (see the illustration below).



Detaching the tubes






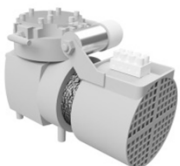

## 10. Servicing the product

Servicing of the products of Ottobock | Jos America must only be performed by the supplier or by an installer approved by the supplier. During servicing, ensure that the power is completely disconnected by pulling the plug out of the socket.

 	<ul style="list-style-type: none"><li>▶ The user may be placed in danger by incorrect use of the product or by repairs performed by unauthorised personnel.</li><li>▶ Only use original spare parts.</li><li>▶ Ottobock   Jos America accepts no liability in the case of improper use or if non-original spare parts are employed.</li><li>▶ Before opening, remove the plug from the socket.</li></ul>
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## 11. Component list

	Article number	Product description	
	755Z44	Protective cover touchscreen	
	755Z20=2	In-line replacement filter	
	755Z39=1	Connecting tubes with filter and quick-action coupling.	
	755Z39=2	Connecting tubes with filter, ball valve and quick-action coupling.	
	JAM-06.01.0050.0	Water separator seal (X-ring)	
	755Z16=110	Vacuum pump for 755E600=110	110V/60Hz
	755Z16=220	Vacuum pump for 755E600=220	230V/50Hz
	755Z16=220x60	Vacuum pump for 755E600=220x60	230V/60Hz
	JAM-01.01.9032.0	Power cable for 755E600=110	110V/60Hz
	JAM-01.01.9029.0	Power cable for 755E600=220	230V/50Hz
		Power cable for 755E600=220x60	230V/60Hz



## 12. Failures and maintenance

### 12.1 Failures

The most common malfunctions are mechanical failures which are generally easy to fix.

Characteristics of mechanical failure	Possible cause	Solution
Vacuum pump does not cut out.	- A connection has been opened without a "customer".	- Uncouple the filter for which no "customer" is connected.
	- The workpiece that is to be laminated is not airtight.	- Ensure that the workpiece to be laminated is airtight.
	- There is a leak in one of the tubes.	- Check the tubes outside and if necessary inside the machine ( <b>CAUTION:</b> Remove the plug from the socket before doing this).
	- Water separator is leaking.	- Check that the seal is present then re-attach the water separator.
Vacuum pump does not start.	- The glass fuse is broken.	- Check the glass fuse. This is located next to the power socket at the rear of the machine.
	- There was a power failure.	- Remove the plug from the socket, wait at least 5 seconds, then re-insert the plug.

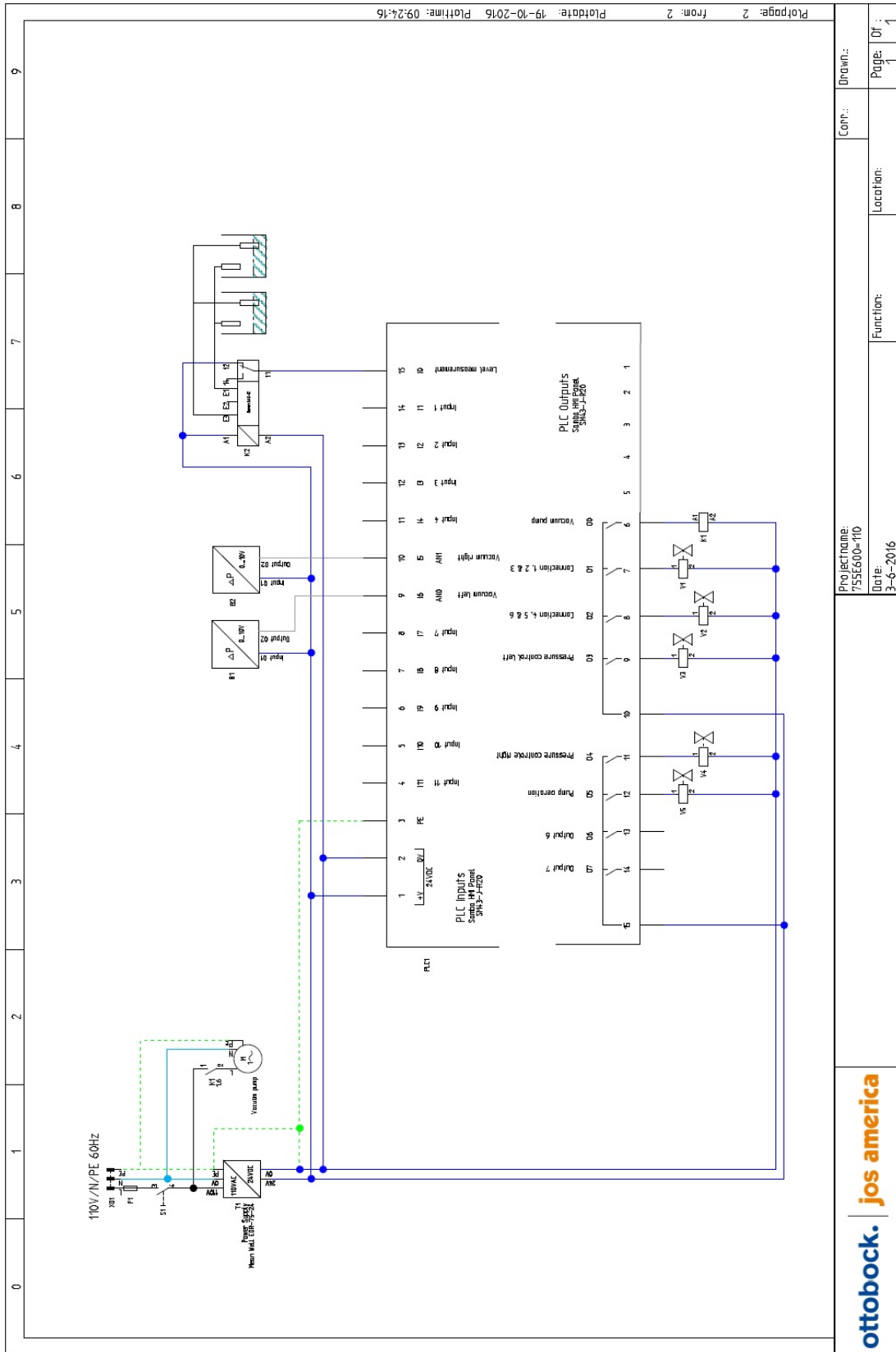
## 12.2 Maintenance

 	<ul style="list-style-type: none"> <li>▶ The user may be placed in danger by incorrect use of the product or by repairs performed by unauthorised personnel.</li> <li>▶ Only use original spare parts.</li> <li>▶ Ottobock   Jos America accepts no liability in the case of improper use or if non-original spare parts are employed.</li> <li>▶ Before opening, remove the plug from the socket.</li> </ul>
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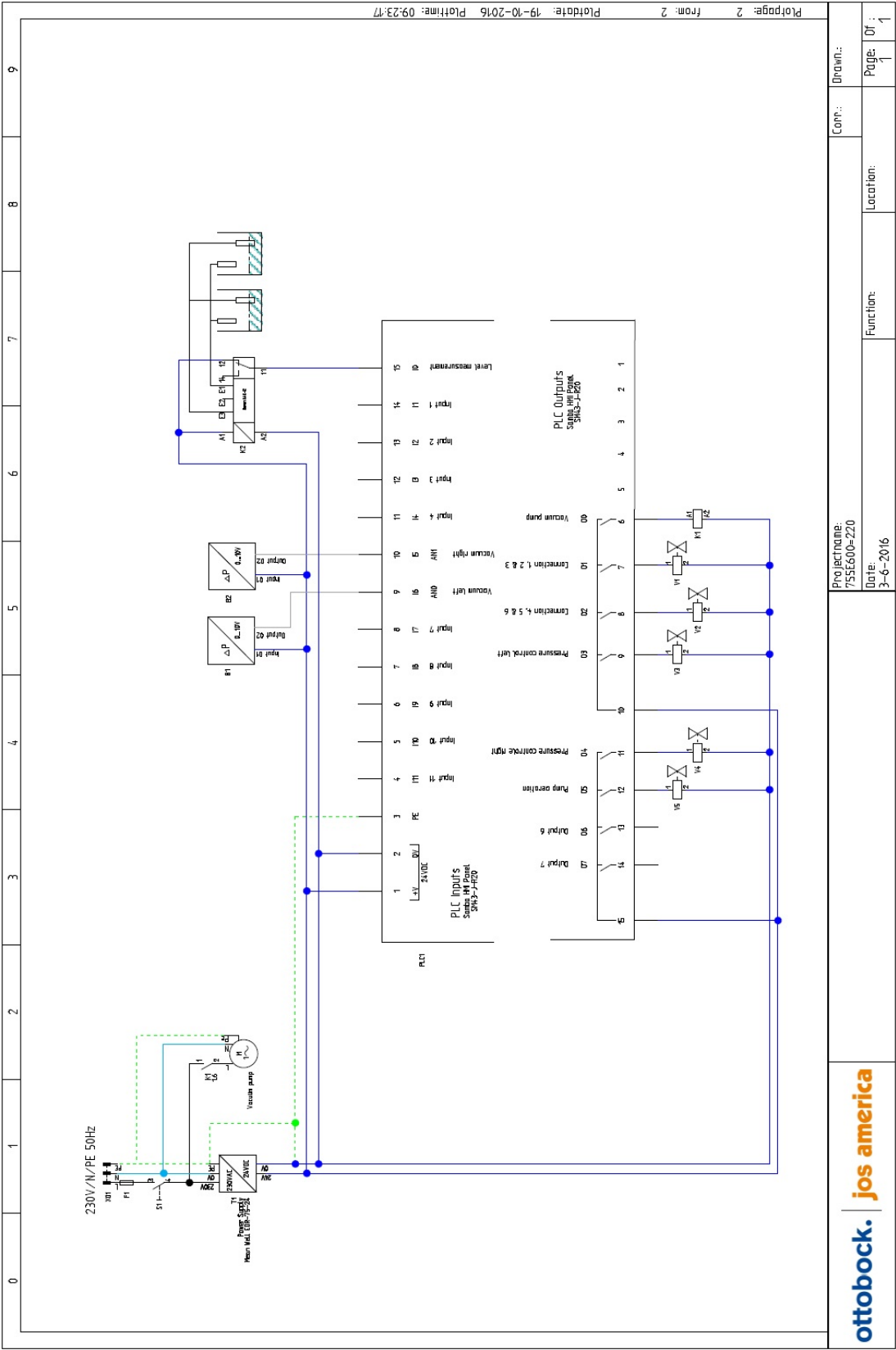
The 755E600=\* vacuum pump requires periodic maintenance. This involves periodically emptying and cleaning the water separators (see the "Use" section). An alert will be displayed when these need to be emptied. It is however also recommended that you clean the separators immediately after emptying them. The water separators should also be emptied if the 755E600=\* vacuum pump has not been in use for a number of days or longer.

The filters mounted on the connection tubes at the front of the vacuum pump should be replaced once a year or if they become heavily contaminated. In the latter case, the replacement period may be shortened, depending on the material that is being processed

# 13. Elektroplan



Projectname: 755E600=110		Drawn:	1
Date: 3-6-2016		Page:	1
Function:		Location:	
Corr.:		Dr:	1












## 14. Pictograms used

In the following subsections, you will see the symbols and pictograms that could be used in this document along with their meaning.








### 14.1 Warning symbols

	Warning of general danger
	Warning of suspended loads
	Risk of tipping
	Hazardous voltage warning
	Warning of rotating parts
	Warning of splinters
	Noise warning

	Warning of toxic materials
	Irritating substances warning
	Risk of crushing lower limbs (such as feet)
	Risk of tripping
	Slip hazard warning
	Risk of crushing upper limbs (such as hands)
	Risk of cutting upper limbs (such as hands)






## 14.2 Mandatory symbols


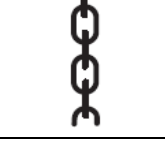
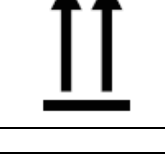


	<p>General mandatory symbols</p>
	<p>You must read the manual carefully</p>
	<p>Work only with 2 people or in the presence of a 2<sup>nd</sup> person</p>
	<p>Hair covering required</p>
	<p>Hearing protection required</p>
	<p>Eye and hearing protection required</p>
	<p>Eye protection required</p>

	Wear eye and mouth protection
	Light respiratory protection required
	Safety clothing required
	Safety gloves
	Safety shoes required
	Remove plug from socket before opening
	Disconnect from mains before use
	Padlock required

### 14.3 Prohibition symbols

	Never walk or stand under suspended loads
	Gloves prohibited
	Suction of sources of ignition prohibited

### 14.4 Pictograms for transport and storage

	Place in front of the forks of the forklift/pallet truck
	Lifting point
	This side up for transport and storage
	Protect from contamination
	Note the centre of gravity

***Producer and supplier***

*Jos America Machines B.V.*

*Industriepark “het Hoog”*

*Mandenmaker 14*

*5253RC Nieuwkuijk*

*Netherlands*

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