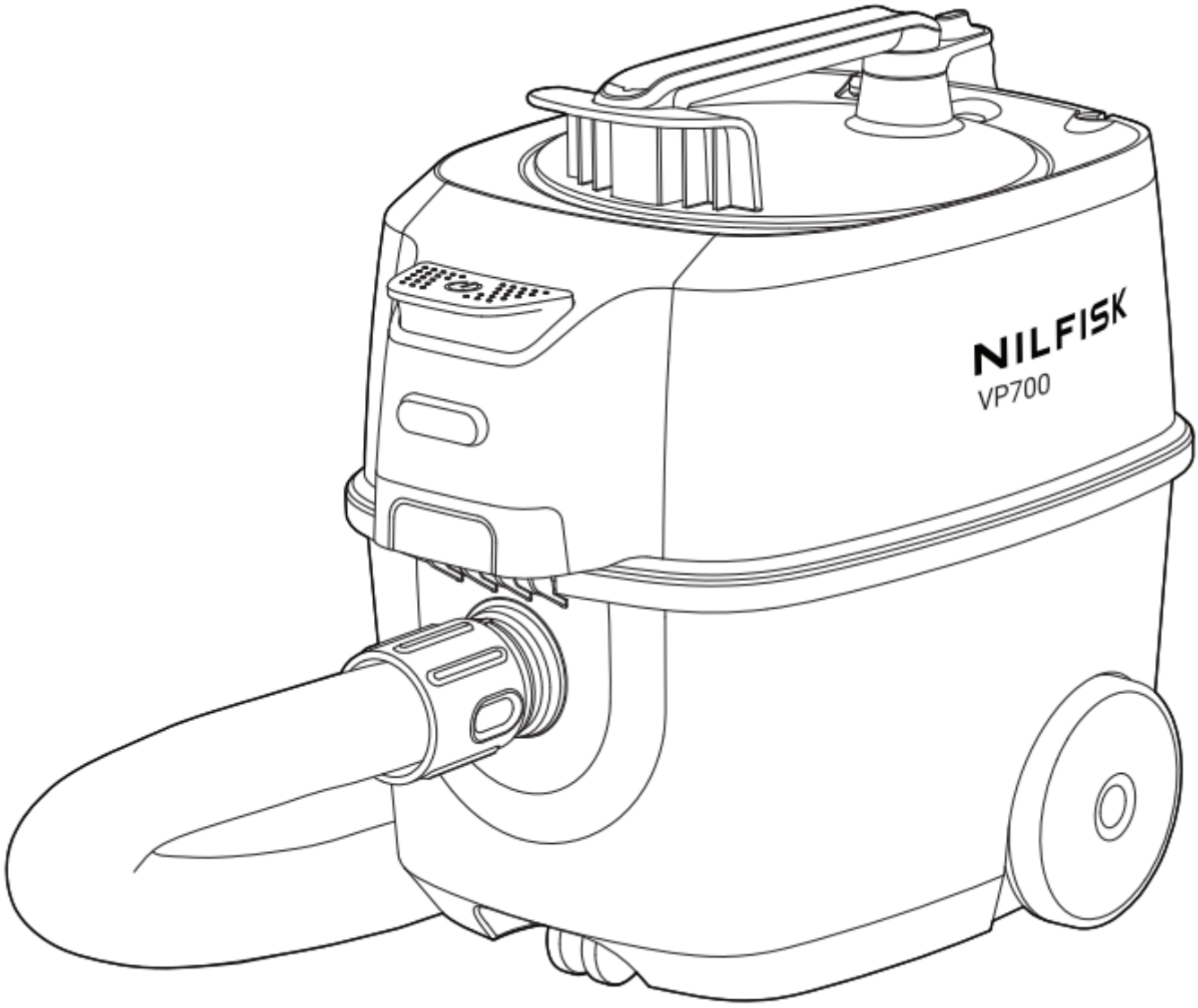
SERVICE MANUAL

# VP 700




NILFISK

# Preface

## This service manual contains detailed description of the main repair work on the VP 700

Repair work requires a suitable testing workplace with the necessary power supply.

If operating errors are evident, refer the customer to the operating instructions.

A fault in the equipment can have several causes as described in the section on troubleshooting.

Refer to the illustrated spare parts lists during repairs. They show the assembly position and the sequence in which the individual components should be assembled.

See ”Technical Service Bulletin” (TSB) sheets. They include information on technical

modifications  that have been made after this repair manual was printed.

”Technical Service Bulletin” sheets are also valid as a supplement to the spare parts list until publication of a new edition.

Repair manuals and ” Technical Service Bulletin” sheets should be available at the site

where repairs are carried out.

It is not permitted to give them to third parties.

Use original Nilfisk spare parts only.

# Table of Content

**For your own safety!**

Before using the cleaner, always read the operating instructions and keep them
readily available.

Only allow the vacuum cleaner to be used by persons who have been trained in its use and who have been explicitly authorized to use it.

**Repairs should only be made by someone who has received proper instructions for the job or who is a qualified electrician.**

**After the repair or modification an electrical examination is to be performed according to EN 62638**

Observe national safety directives and regulations for the electrical engineering trade, in particular:

EN 60335:2012 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021 + A16:2023

EN 60335-2-69:2012

EN 55014-1:2021

EN 55014-2:2021

EN 61000-3-2:2019+A1:2021

EN 61000-3-3:2013+A1:2019+A2:2021

EN 63000:2018

EN 60312-1:2017

EN 60335-2-69:2012

# Technical data

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| | | VP700 | VP700 (S2) | VP700 (AU/NZ) |
|---|---|---|---|---|
| Basic specs: | | | | |
| Item number: | | | | |
| Rated power | w | 750 | 750 | 1200 |
| Protection grade (dust,moist) | | IP20 | IP20 | IP20 |
| Protection class (electrical) | | II ⧈ | II ⧈ | II ⧈ |
| Max. Airflow. End of tube | l/s | 34 | 34 | 36 |
| Vacum at nozzle | kPa | 22 | 22 | 23 |
| Suction power. End of tube | w | 240 | 240 | 280 |
| Sound level @2m | dB/A | 48 | 48 (45) | 51 |
| Sound Pressure Level $L_{PA}$ (IEC 60335-2-69) | db(A) | 53 | 53 | 56 |
| Sound Pover Level $L_{wa}$ (IEC 60335-2-69) | db(A) | 66 | 66 | 69 |
| Vibration | m/s^2 | ≤ 2,5 | ≤ 2,5 | ≤ 2,5 |
| Filter stages | | 4 | 4 | 4 |
| Main filter type* | Class | HEPA | HEPA | HEPA |
| HEPA filter surface area* | cm² | 2400 | 2400 | 2400 |
| Container volume | l | 15 | 15 | 15 |
| Weight machine | kg | 5,9 | 5,9 | 5,9 |
| Dimensions (LxWxH) | mm | 420x300x410 | 420x300x410 | 420x300x410 |
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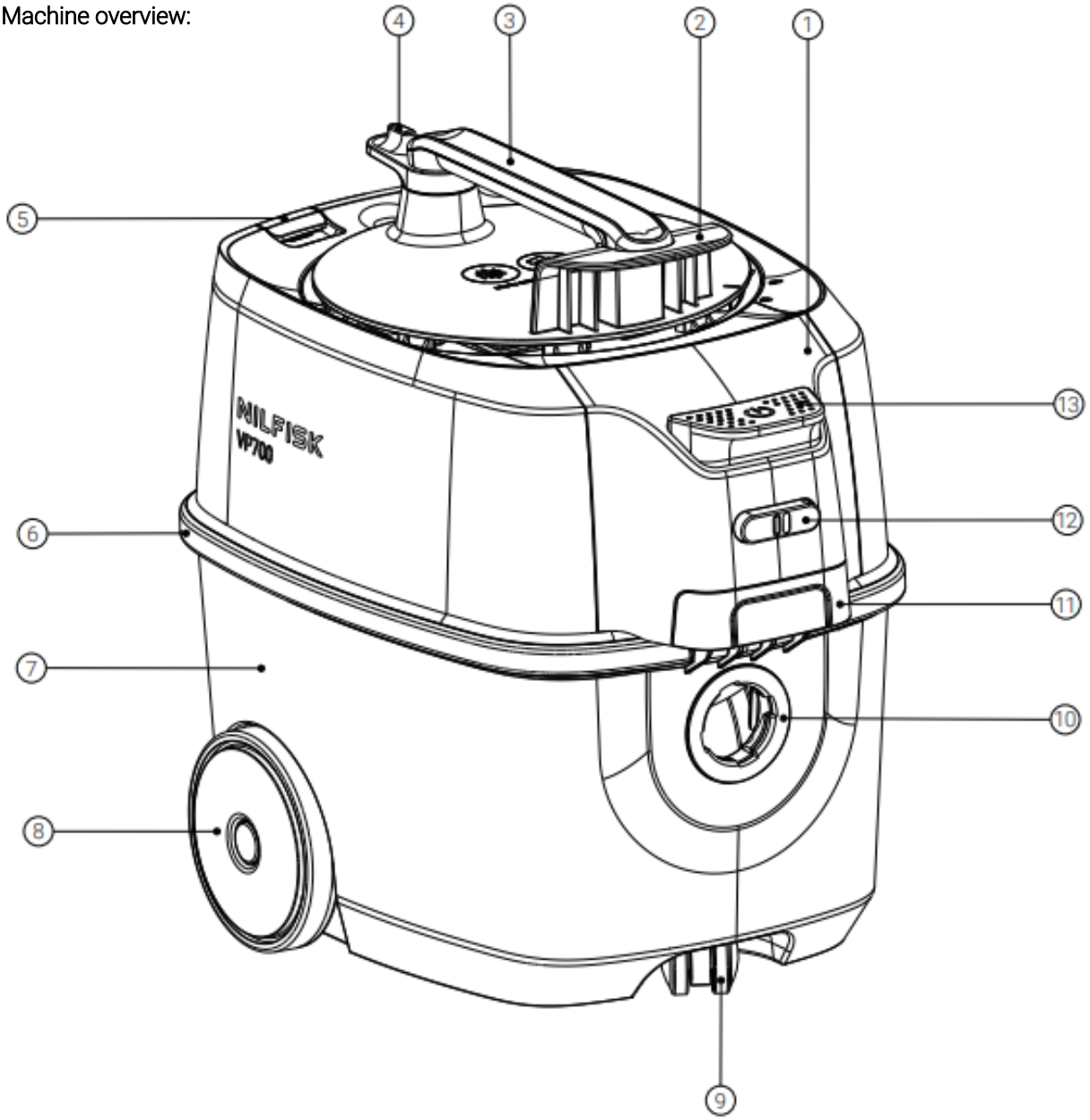
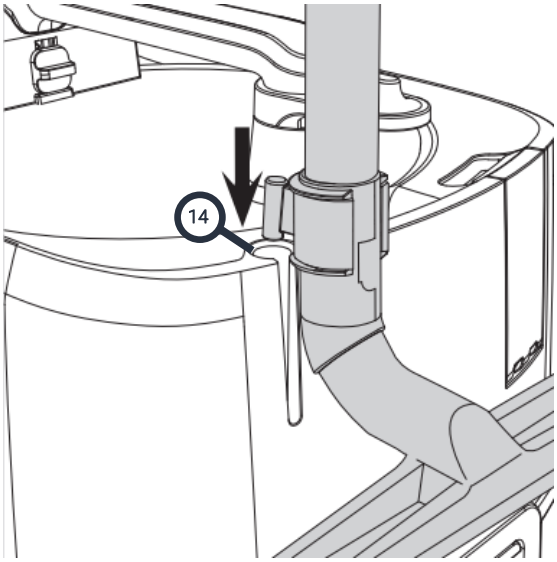
* Model dependent.

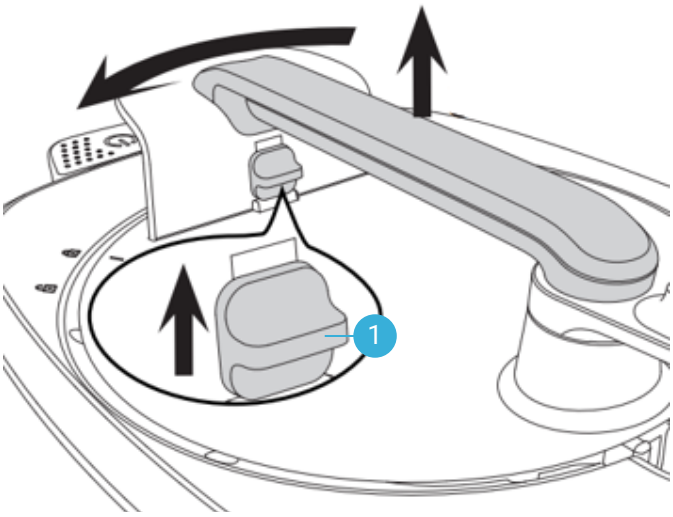
Machine overview:



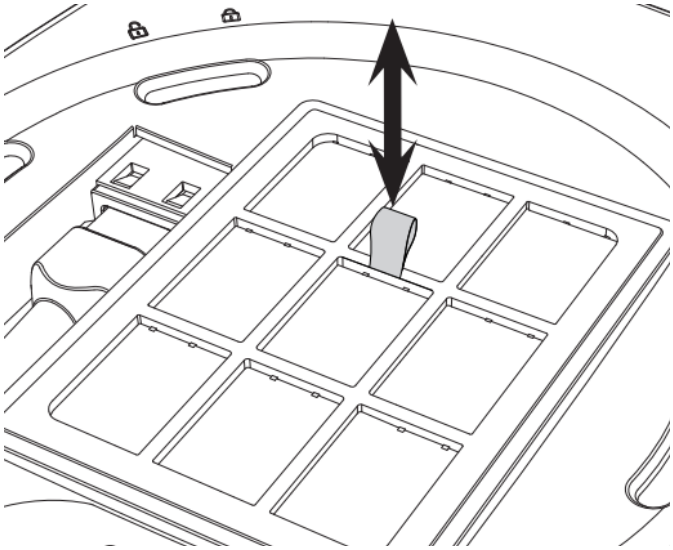

1. Top cover
2. Main filter cover
3. Handle
4. Quick-release knob
5. Cord hook
6. Bumper
7. Container.
8. Rear wheel
9. Castor wheel
10. Hose inlet
11. Latch for release
12. Eco button*
13. Power switch
14. Accessory holder



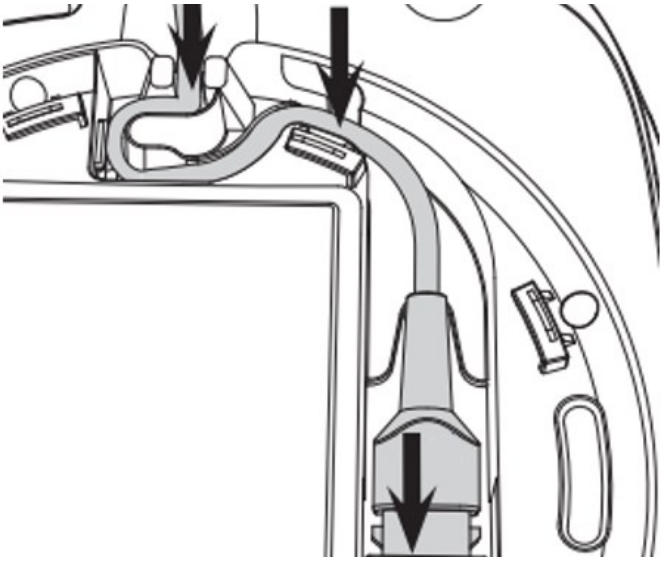

* Selected models



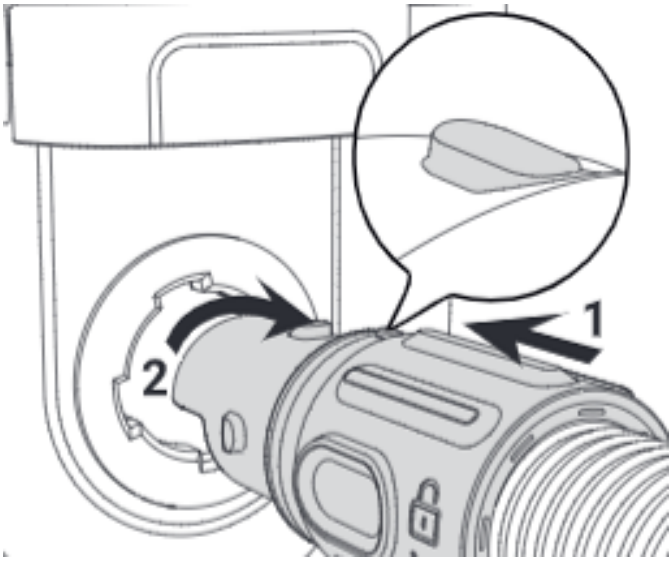

Lock (1) for main filter cover



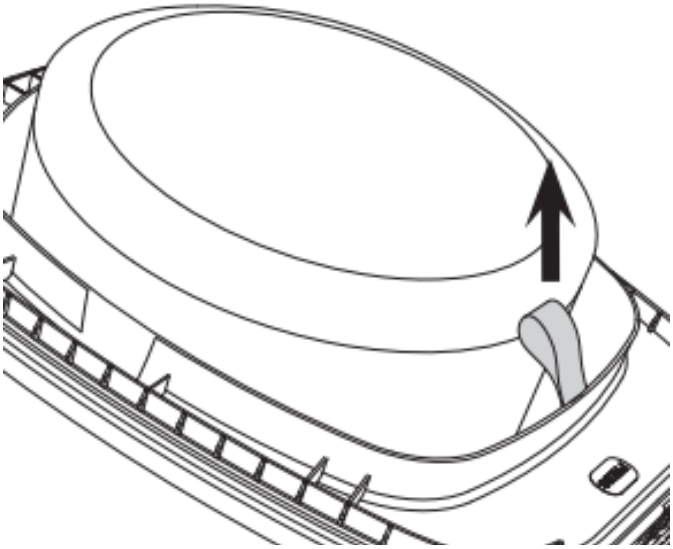
HEPA filter. Model dependent



Cable routing for detachable cable




Hose connection



Prefilter


Vacum valve (1). Valve ensures cooling for the turbine if the bendend/hose/bag is blocked

# Construction –

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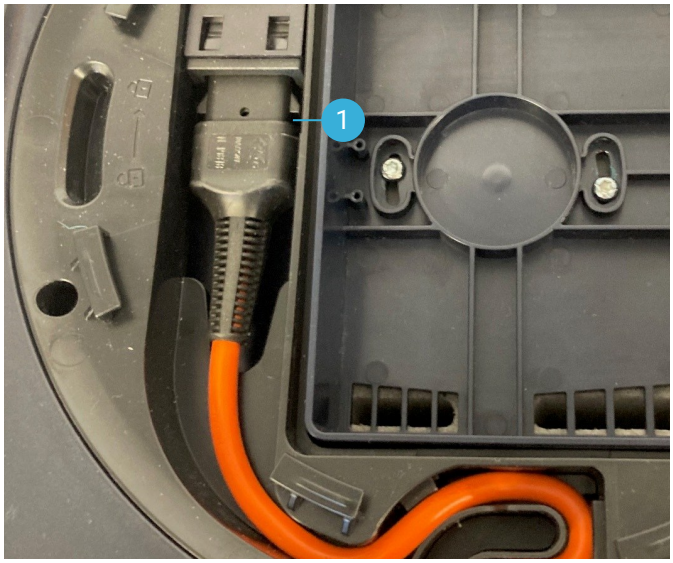
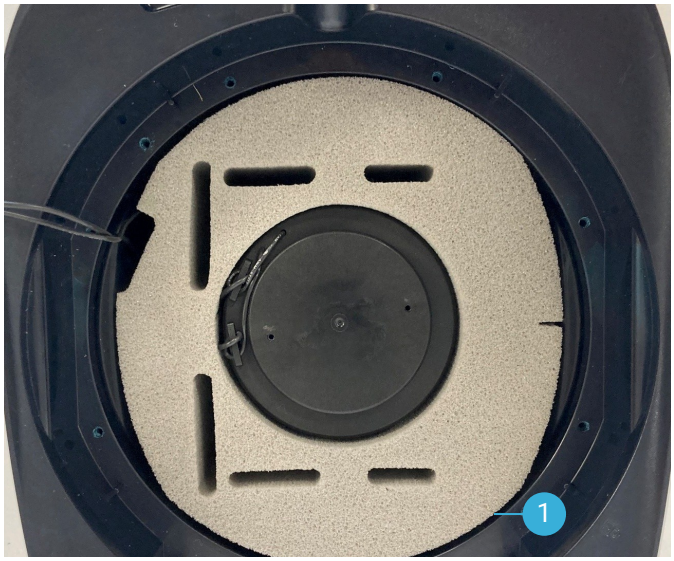
Pre filter (1)

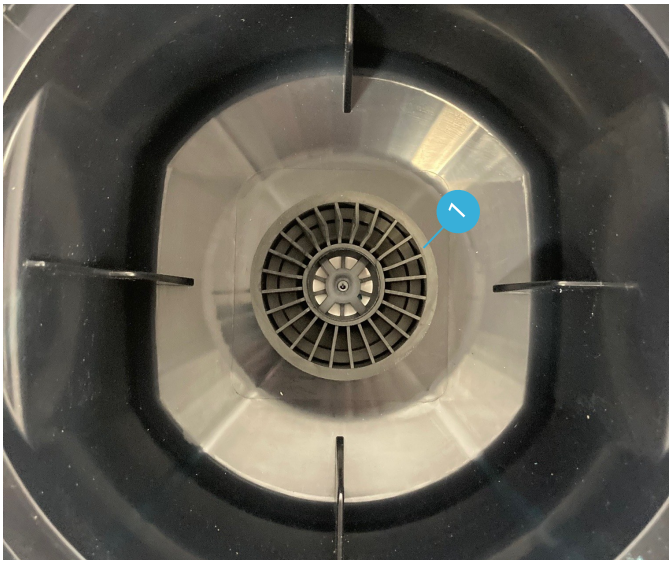



Detachable cable (1)

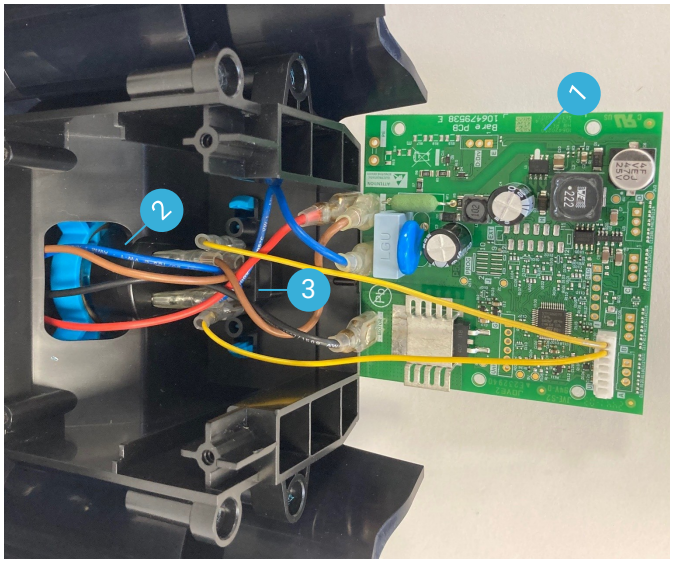



Soundproofing (1)

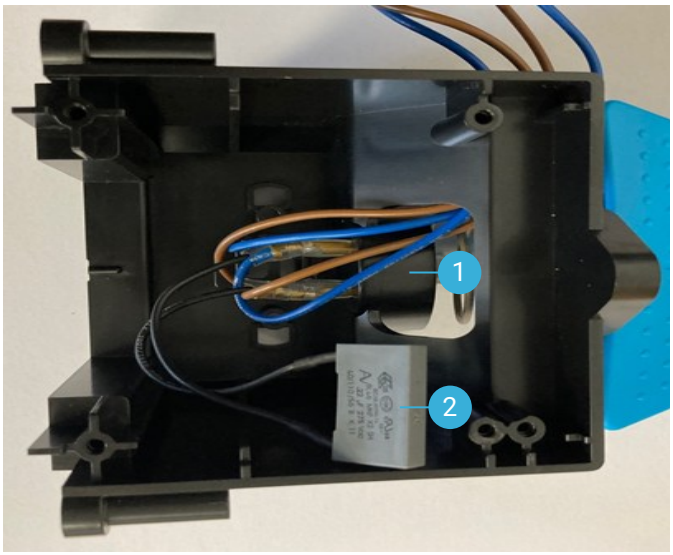

Turbine (1)




Turbine sealing (1)




Dual mode control panel:
PCBA P50 (1)
Power switch (2)
Eco button (3)

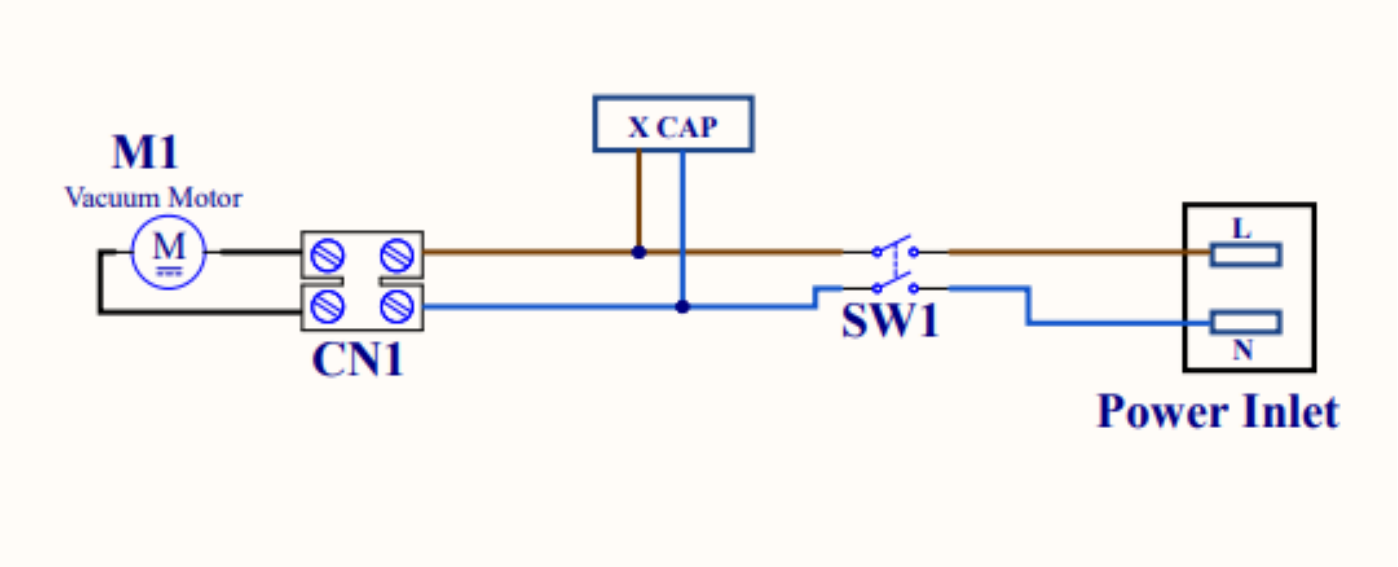



Singel mode control panel:
Power switch (1)
Capacitor (2)

## VP700 single mode

FUNCTION:

The power cord is plugged into the correct power supply. Machine is started by pressing the ON/OFF switch (SW1).
Machine will start.
Machine is stopped by pressing the ON/OFF switch (SW1).

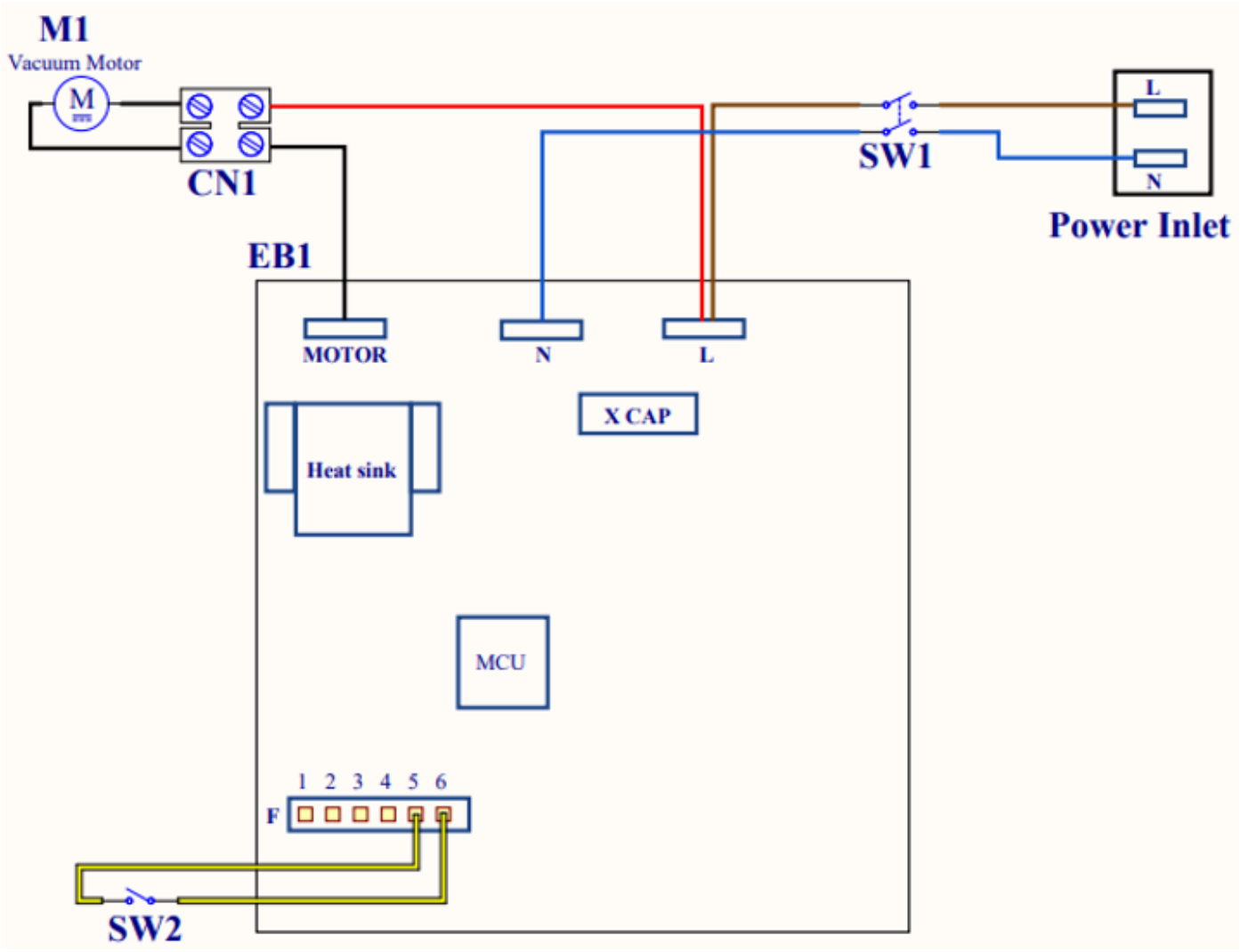



| | |
|---|---|
| CN1 | Wire terminal |
| X CAP | Capacitor |
| M1 | Vacum motor |
| SW1 | Power Switch |

## VP700 with ECO mode.

**FUNCTION:**

Machine is started by pressing the ON/OFF switch (SW1). Machine will start in  low suction power (ECO). To get full suction power press speed mode button (SW2) once. Press again to return to low suction power (ECO).
Machine is stopped by pressing the ON/OFF switch (SW1).




EB1 Main Controller
CN1 Wire terminal
X CAP Capacitor
M1 Vacum motor
SW1 Power Switch
SW2 Eco button

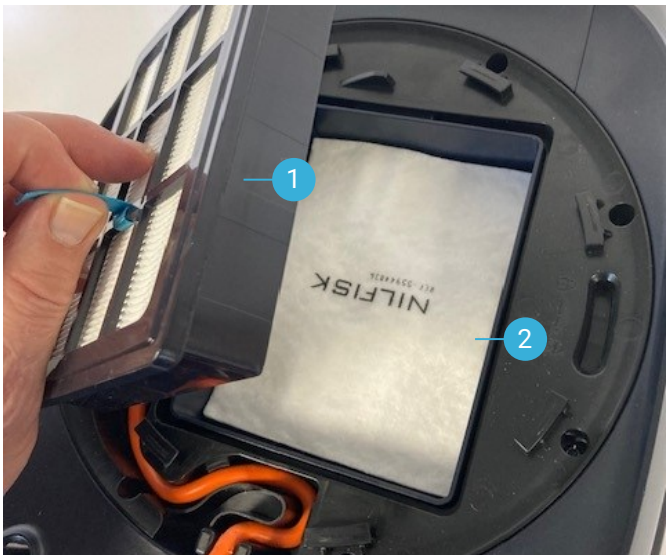
**VP500**

| Failure symptom | Cause | Remedy |
|---|---|---|
| Machine do not start | No power to turbine when ON/OFF switch is turned on. | Input power failure<br>ON/OFF switch defect<br>Turbine defect<br>PCBA Defect. Only dual mode machines.<br>Capacitor defect. Only single mode machines. |
| Machine can only run at low or high suction power. Only machines with eco funktion. | No regulation signal to PCBA | Speed mode switch or wiring defect. |
| Low airflow | Restriction in the machine's suction system | Inspect hose, bag, and filter. Clean or replace if necessary. |
| | | |

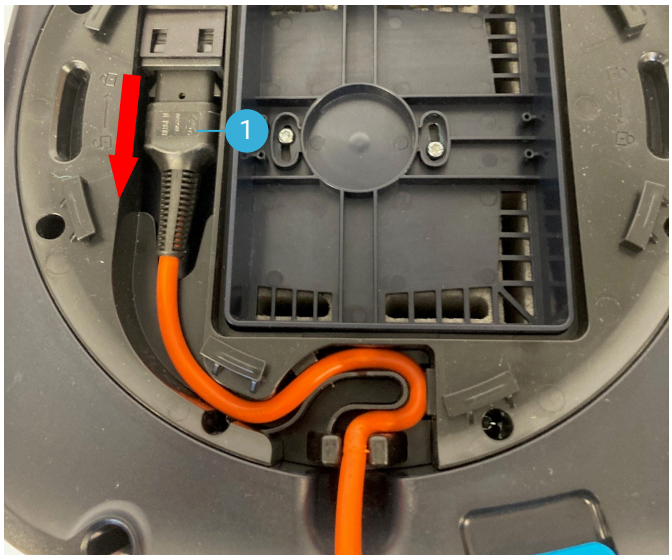
## Disassembly


Remove head from container and remove (1) pre filter

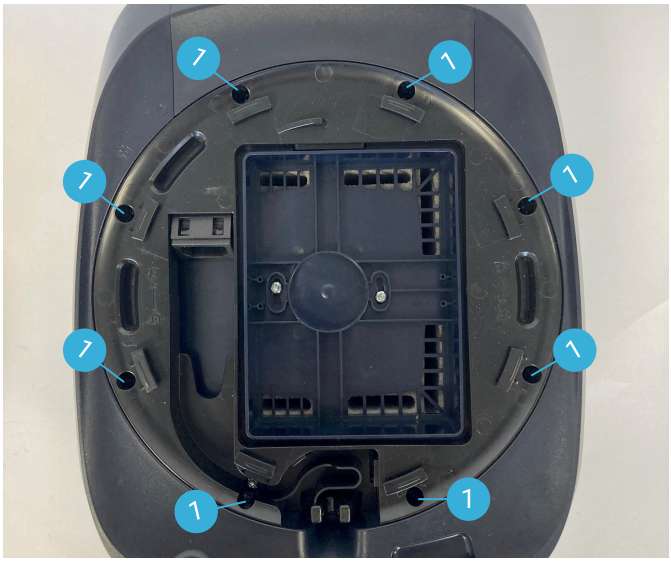

Remove topcover (1)




Remove main filter (1) and pre filter (2)



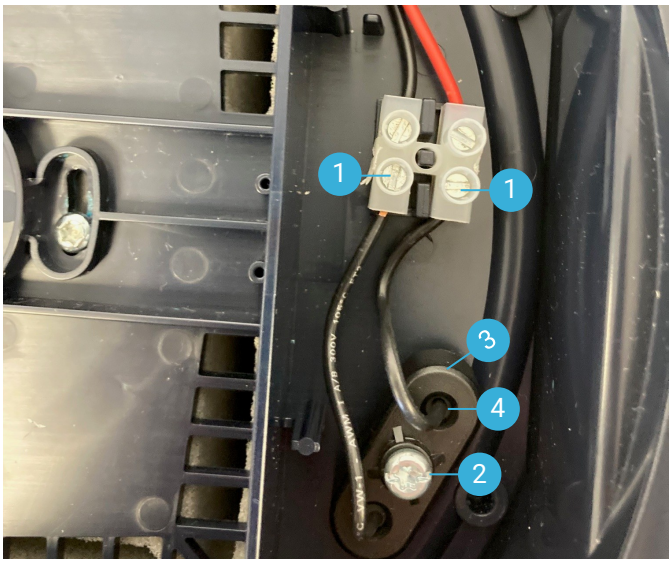

Disconnect the main cable (1)



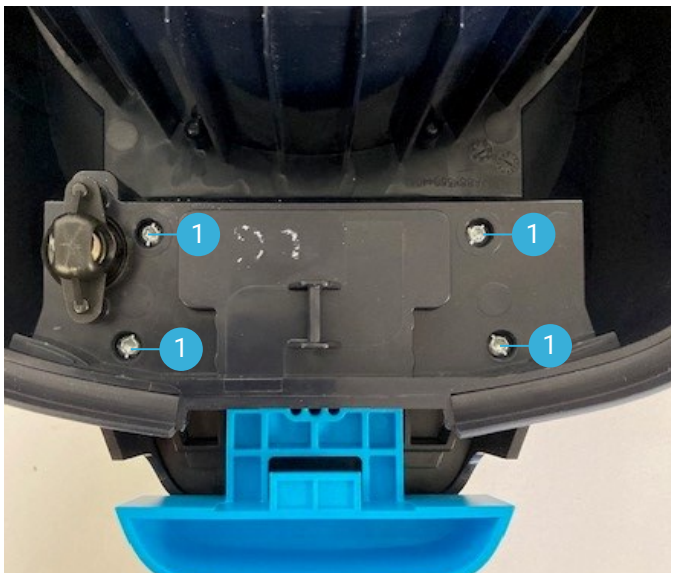

Remove the 8 screws (1) **Torx 20**


Remove spacer (1)

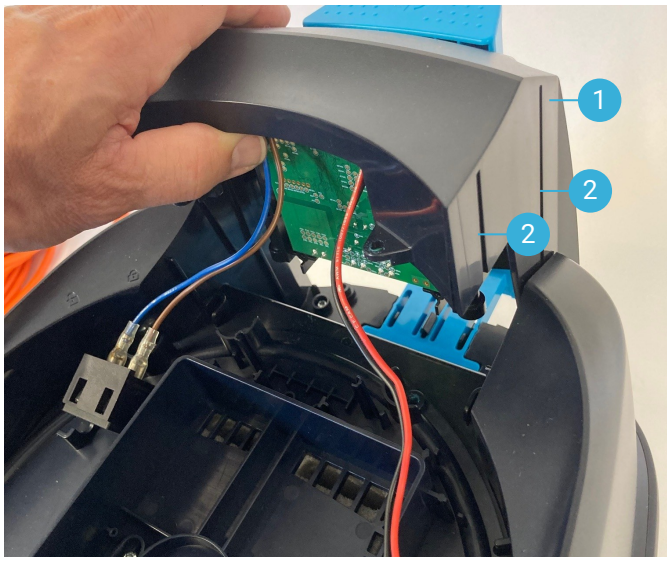
## Disassembly



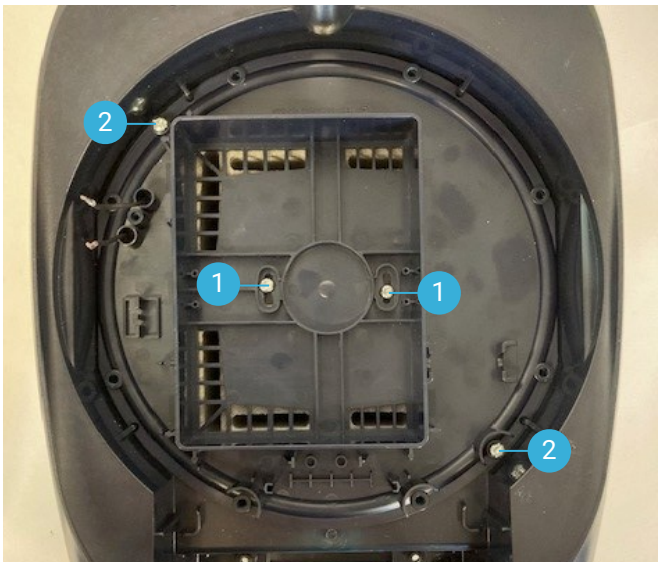

Disconnect the two turbine wires (1) and remove the torx 20 screw (2). The plastic cover (3) and rubber seal can now be removed.




Remove the four screws (1) for the control panel




Remove complete control panel (1) by pulling it up from the slot (2)



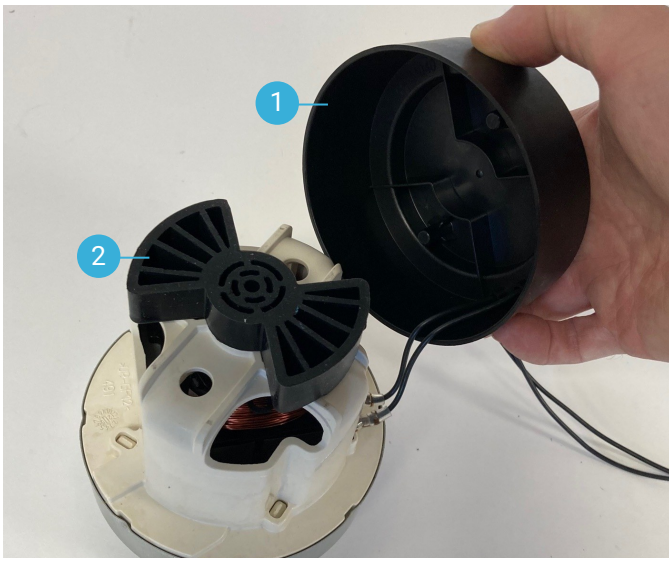

Remove the two screws for the turbine (1) and two screws (2) for the filter plate


Remove filter palte (1)

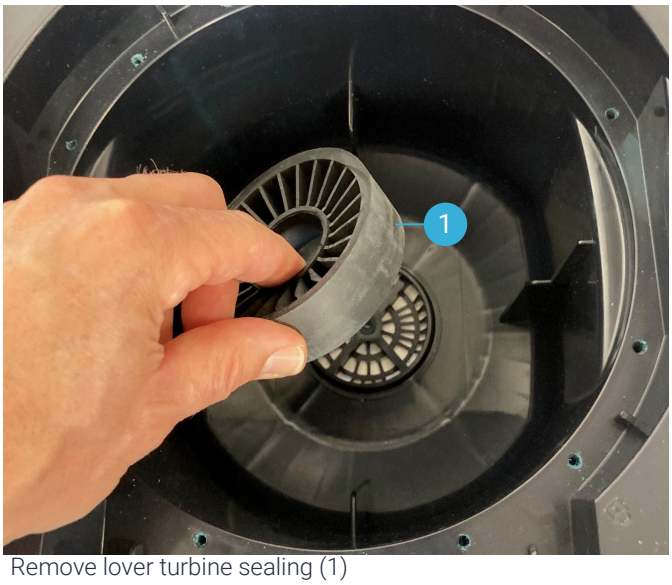

Remove soundproofing (1)

## Disassembly


Remove turbine (1)

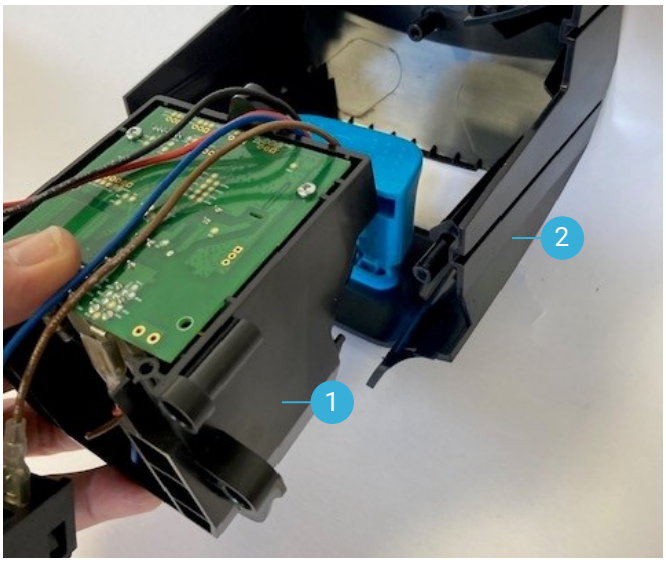



Remove plastic cover (1)and rubber part (2)




Remove lover turbine sealing (1)

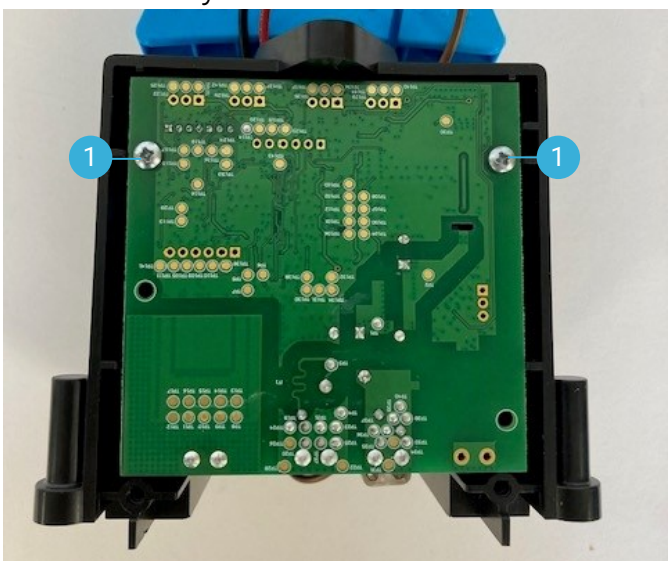

Release the two snaps (1) with a screwdriver and pull out the eco mode button (1). Single mode machines has no eco mode button



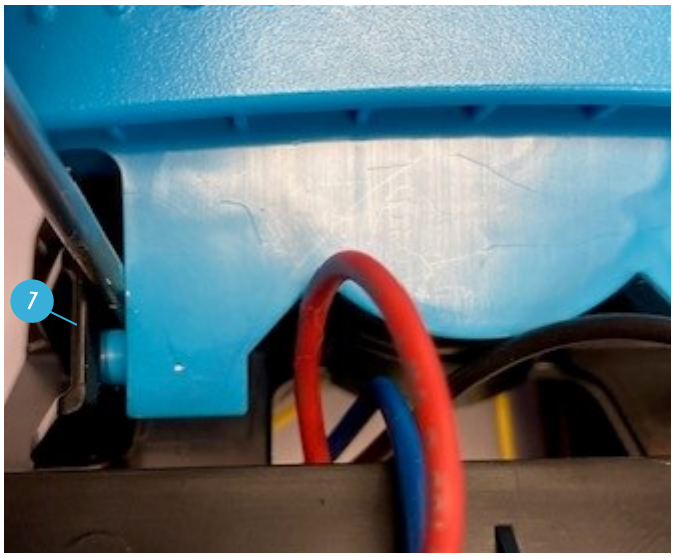

Control panel (1) with PCBA and switches can now be pulled out of the cover (2). Single mode machines same procedure


Remove eco button (1) and spring (2) from the cover (3)

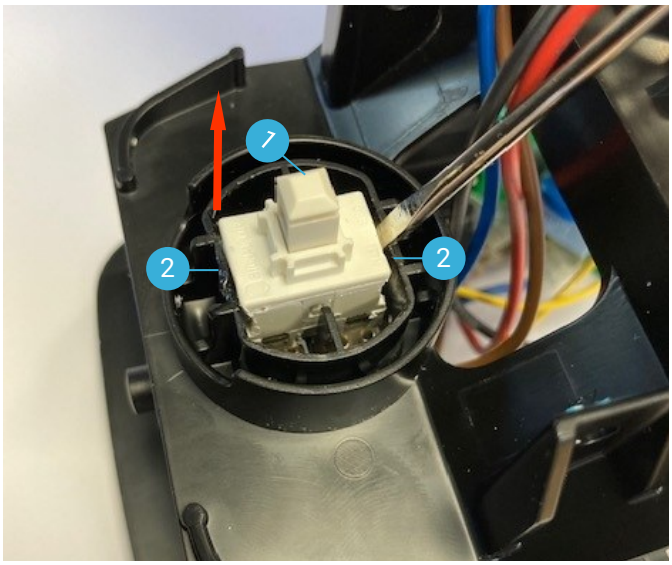
## Disassembly



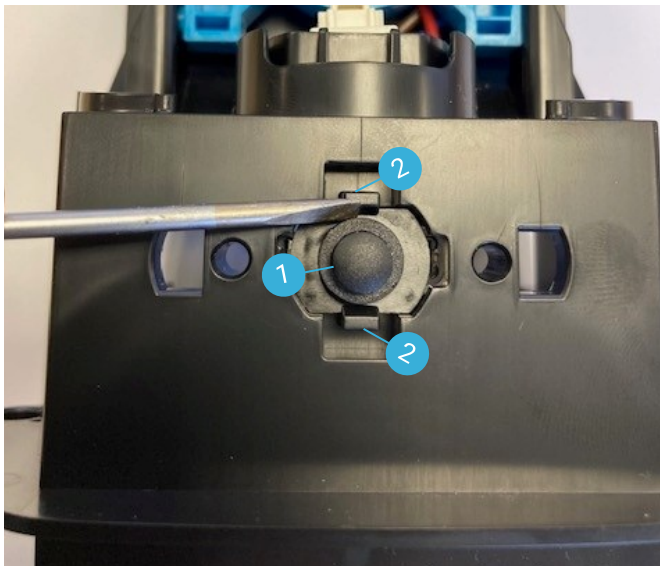

Remove the two screws (1) holding the PCBA.



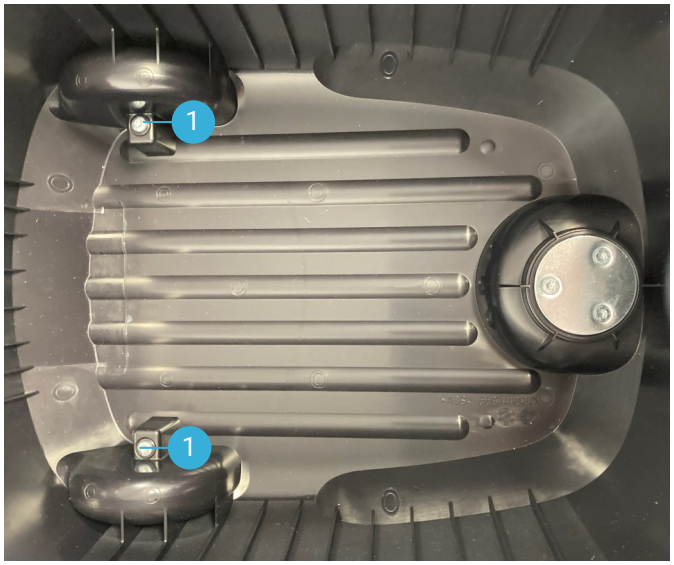

Remove power switch button (+ spring) by releasing the snap (1)with a screwdriver



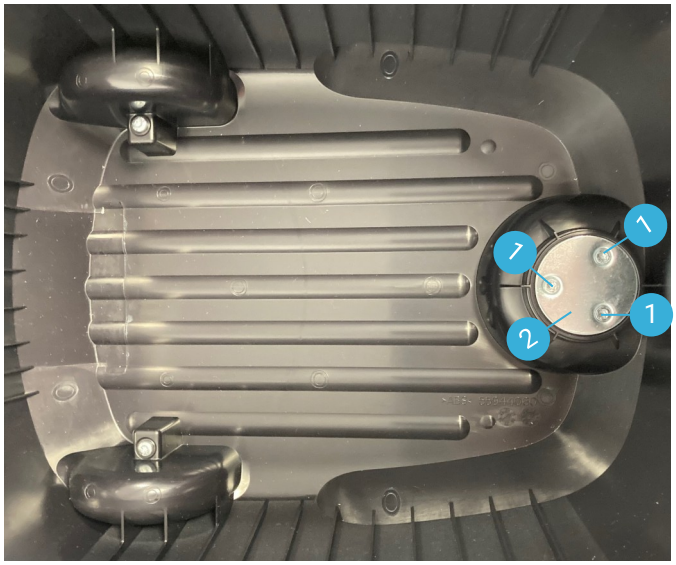

Remove the start/stop swicth (1) by releasening the two snaps (2) with a screwdriver and pull it out.




Remove the eco swicth (1) by releasening the two snaps (2) with a screwdriver and pull it out.

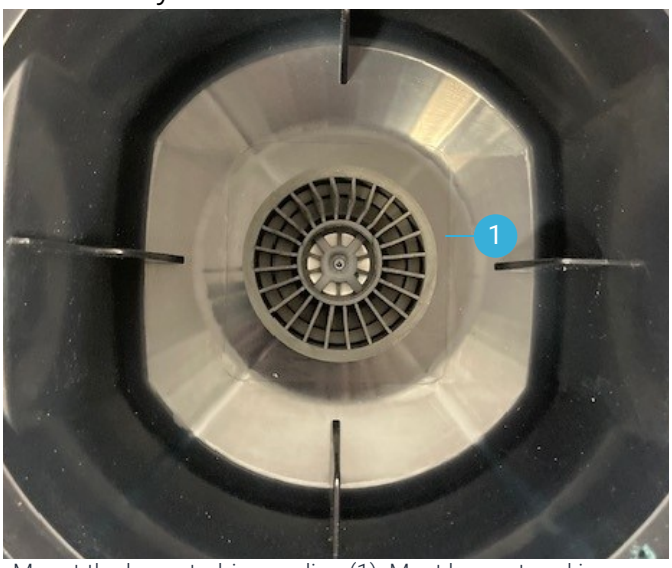



Remove the two screws (1) torx 20 for the rear wheels. Wheels and axle can now be removed from the container.

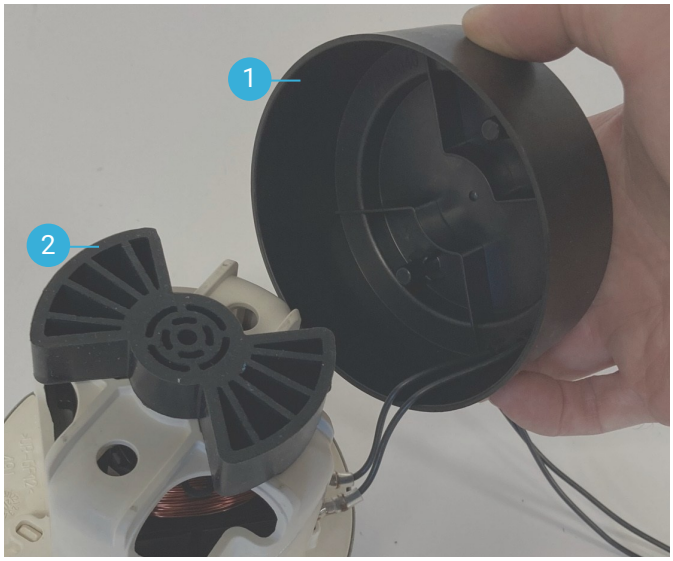



Remove the three screws (1) torx 20 for the castor wheel. Castor wheel and mounting plate (2) can now be removed.

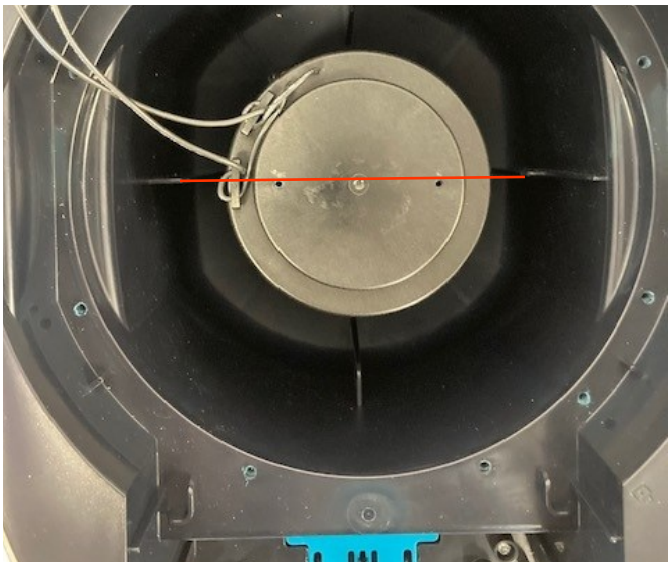
## Assembly



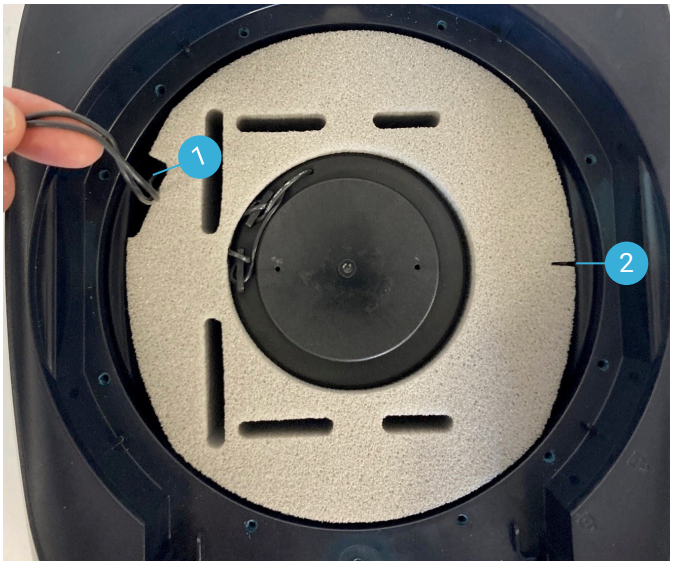

Mount the lower turbine sealing (1). Must be centered in reeses




Mount plastic cover (1) and rubber part (2) on the turbine. Please note that the rubber part must fit into the plastic part.

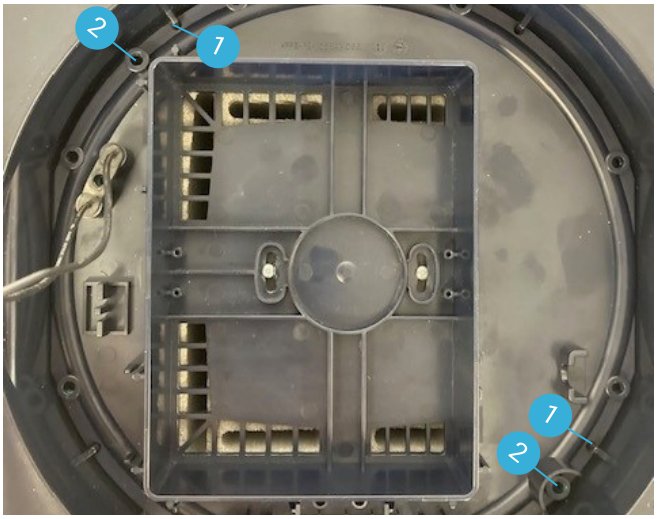


Place the turbine on top of the turbine gasket. Be careful that the recess on the turbine intersects the turbine gasket and goes a little way down into it.




Install sound insulation around the turbine. Lead the cables up as shown (1). Place the sound insulation in the slots (2).

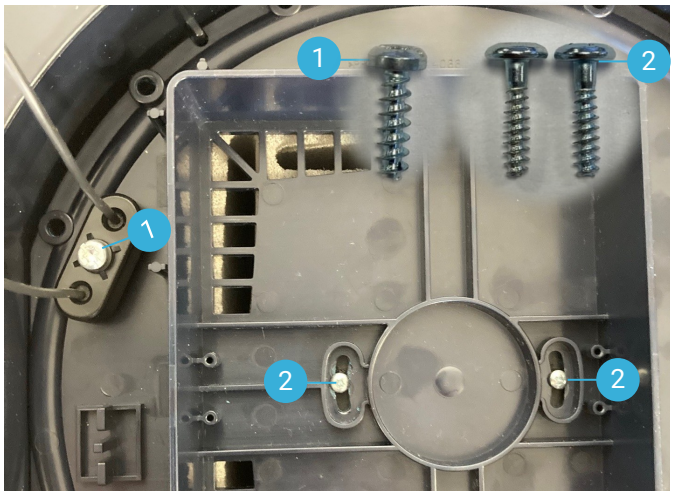

Route the two wires to the turbine through the two holes (1). Make sure the foam gasket (2) is correctly positioned around the filter plate.



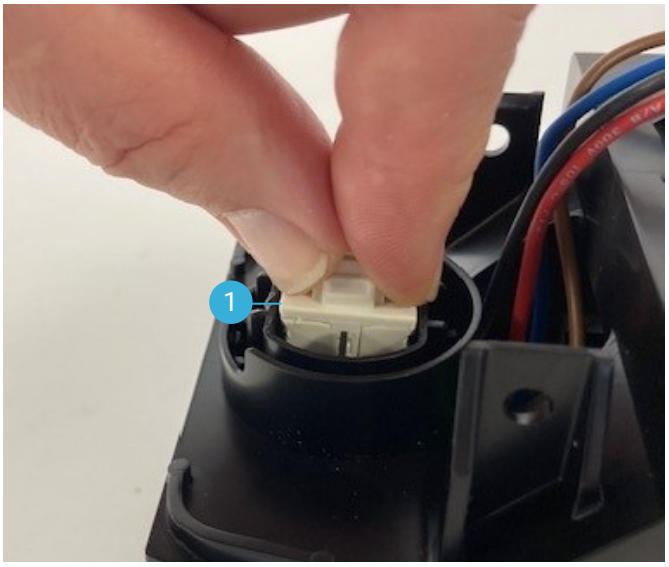

Mount the filter plate. Positioning is controlled by the two recesses (1). Mount the two screws (2) Tighten screws with **1,5 Nm +/- 10 %**

## Assembly

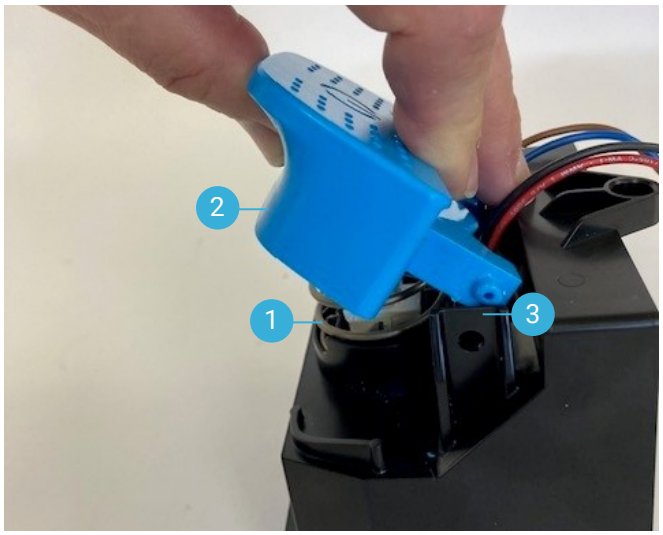
Mount the plastic cover (1) and rubber seal (2).



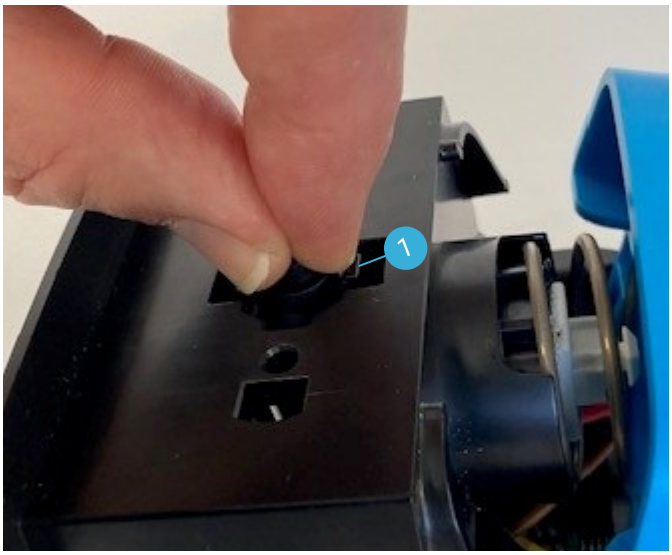

Mount the screw (1) TORX 20 and tighten with **2 Nm +/- 10 %.**
Mount the two screws (2) TORX 20 in the turbine and tighten with **0,8 Nm +/- 10 %.**



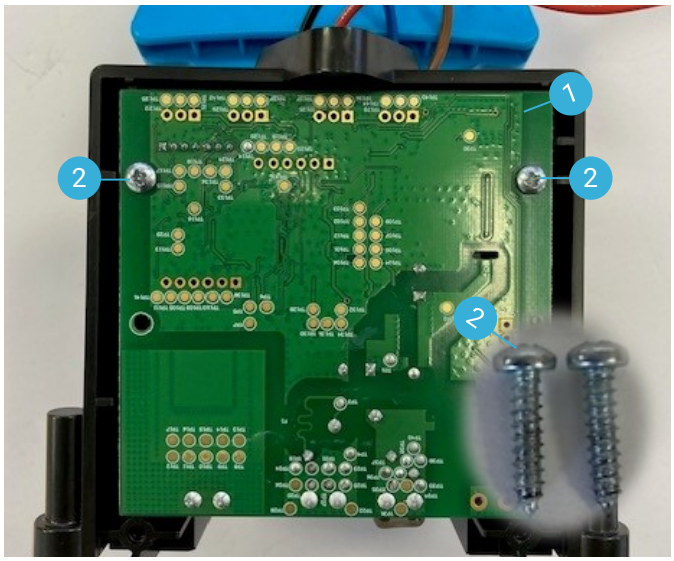

Mount the start/stop swicth (1) by by pressing it down until the snaps, it is released




Mount the spring (1) in recess. Mount the power switch button (2) by pressing it into place in the snap function (3).

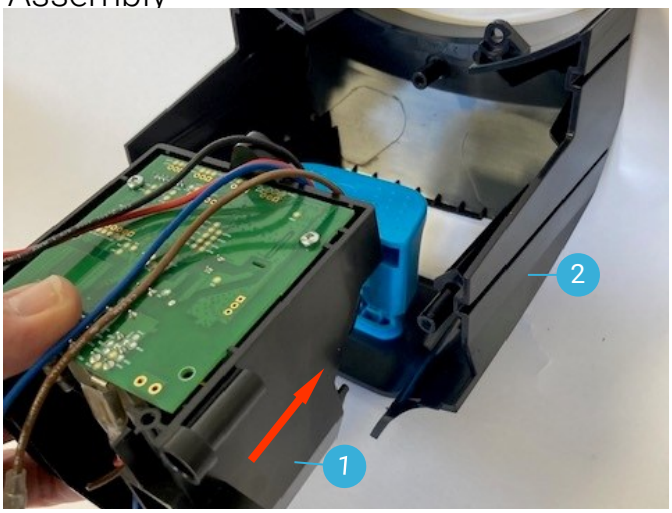



Mount the eco switch button (1) by pressing it into place in the snap function




Mount the PCBA (1) with the two screws (2). Tighten with **1 Nm +/- 10 %.**

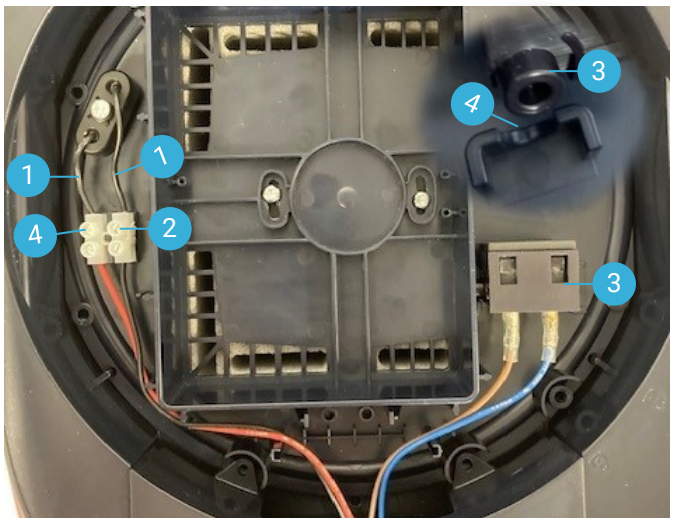
## Assembly



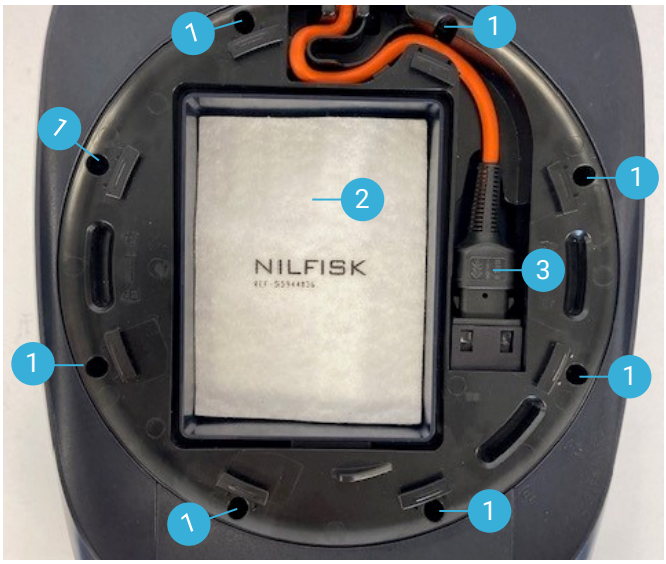

Mount the complete e-box (1) in the cover (2). The eco button must be pulled away from the cover before installation. See next illustration.


Press in the eco button (1) with spring until the snap in button is released


Replace the controlpanel (1) in the head.



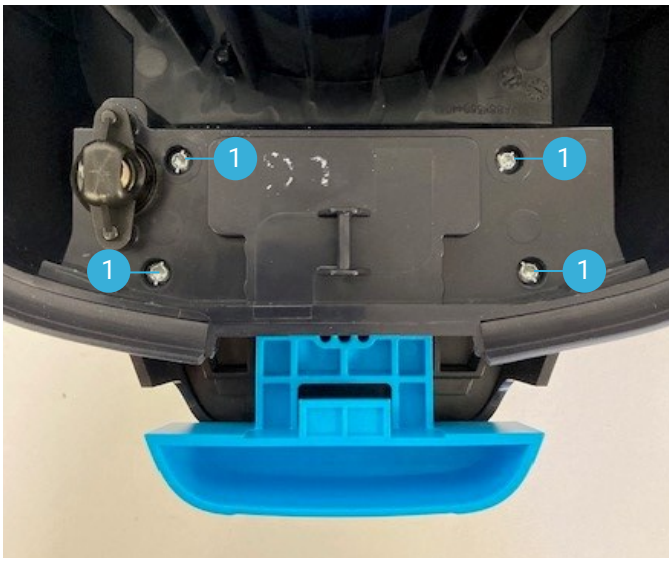

Mount wirers from turbine (1) in wire terminal (2) Tighten screws with **0,7 Nm +/- 10 %.** Replace mail cable connector (3) in the slot (4)




Mount filter plate and screws (1) and Tighten with **1,5 Nm +/- 10 %.** Repelace pre filter (2) and main cable (3)

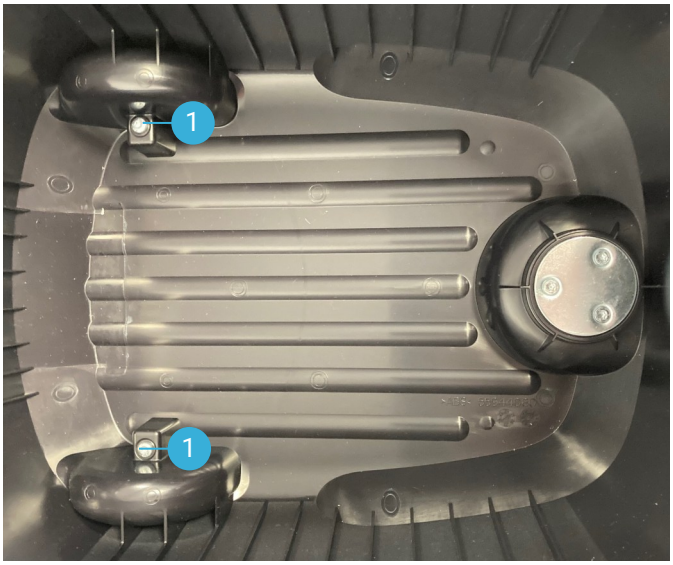

Mount filter (1) and topcover (2)

## Assembly

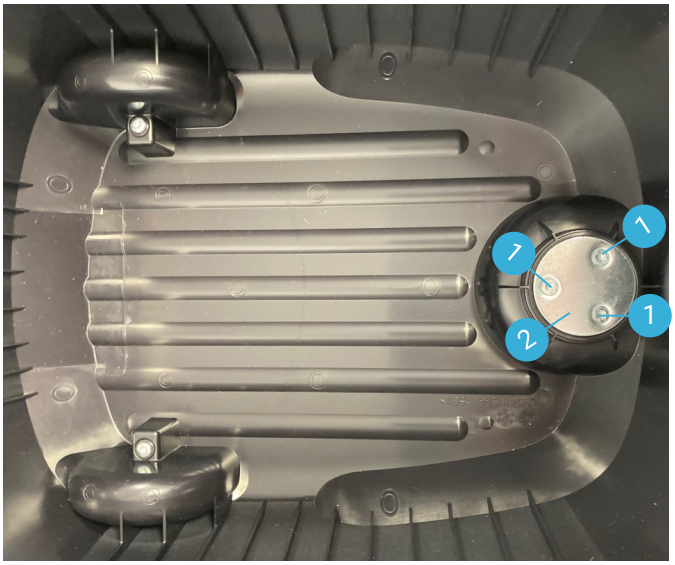



Turn the machine over and install the 4 screws (1) in the control panel. Tighten with **1,8 Nm +/- 10 %.**


Mount the pre filter




Mount the axel and wheel from the buttom of the container. Mount the screws (1). Tighten with **1,5 Nm +/- 10 %.**



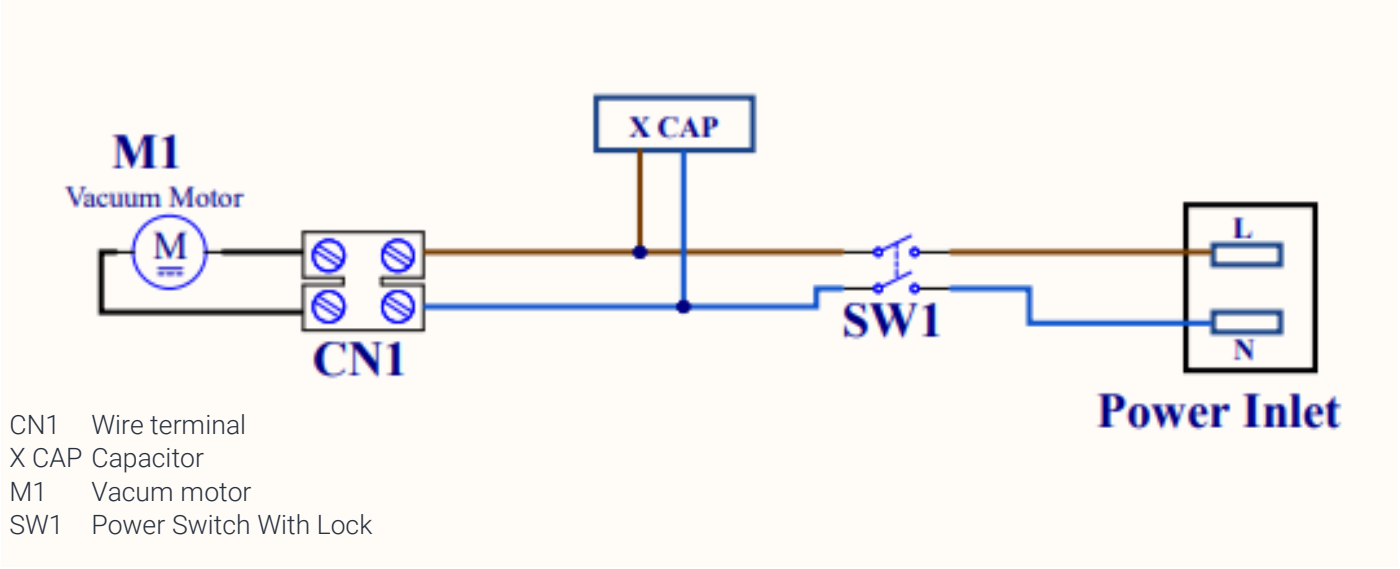

Mount the castor wheel from the buttom of the container. Mount the mounting plate (2) and three screws (1). Tighten with **1,5 Nm +/- 10 %.**


Machine head and container can now be assembled

# Wiring diagrams

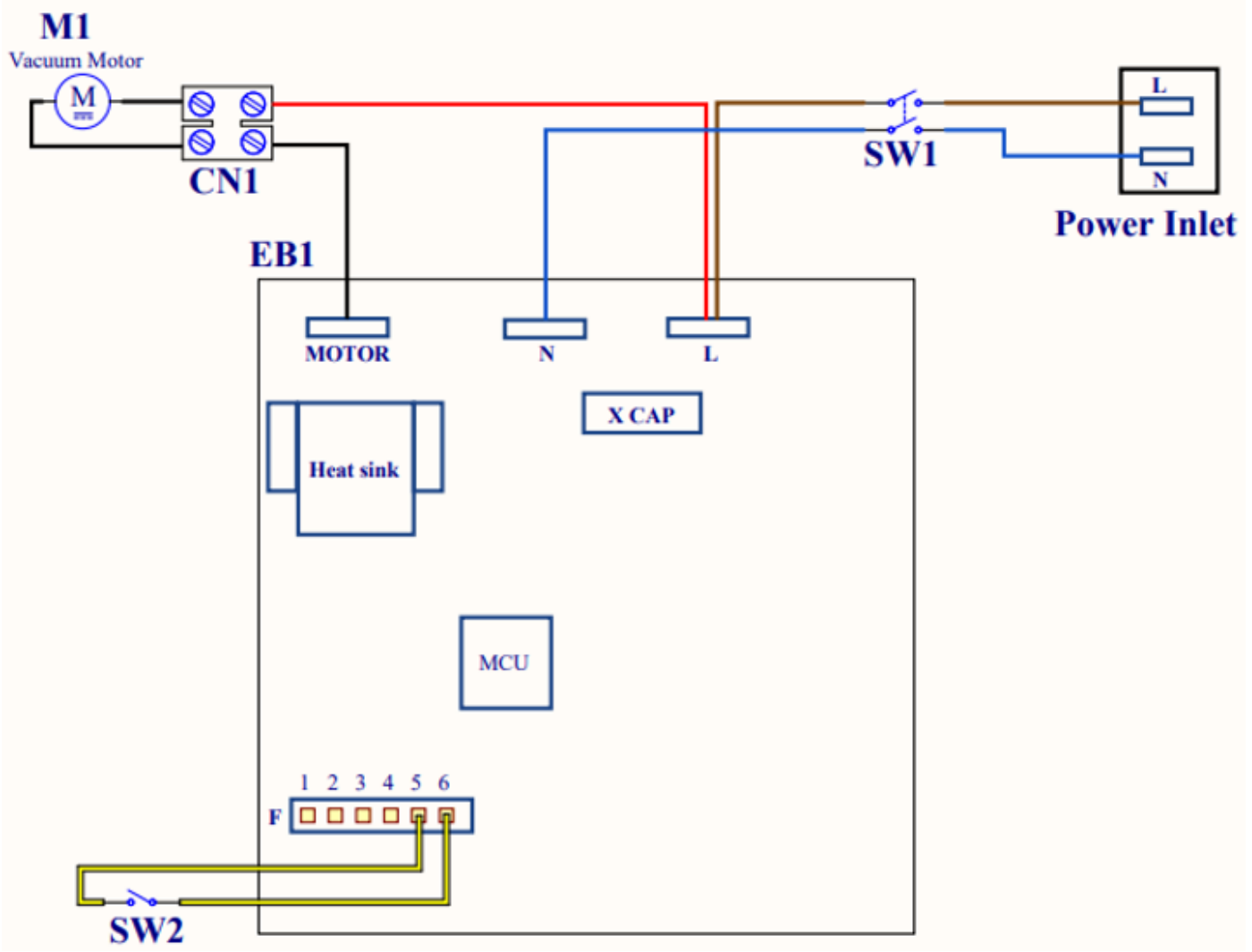
H

## VP700 single mode




CN1 Wire terminal
X CAP Capacitor
M1 Vacum motor
SW1 Power Switch With Lock

## VP700 dual mode




EB1 Main Controller
CN1 Wire terminal
X CAP Capacitor
M1 Vacum motor
SW1 Power Switch
SW2 Eco button

# Special tools / Spare parts

I

| Part Number | Description | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# Notes

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