AERO 26-2L PC, AERO 26-2M PC, AERO 26-W2M PC, AERO 21-0H PC, AERO 26-2H PC, AERO 26-W2H PC

SERVICE MANUAL

⊛Nilfisk

Contents

Preface

This repair manual contains a detailed description of the main repair work for wet and dry cleaners of the Nilfisk-ALTO AERO Series.

* 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 a number of causes. Chapter "C" Troubleshooting will help you here.
* 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.
* Always observe "Technical Service Bulletin" (TSB) sheets! They contain information on technical modifications made after publication of this repair manual.

TSB sheets are also valid as a supplement to the spare part list until publication of a new edition!

Repair manuals and technical information 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-ALTO spare parts only!

Safety Instructions

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:

IEC 60335-2-69
EN 60335-2-69

DIN VDE 105 Part 1:
Operation of power Installation.

EN 62638:
Repairing, modifying and testing electrical installations.

		AERO 26-2L PC		
		AERO 26-2L PC EU	**AERO 26-2L PC CH**	**AERO 26-2L PC AU/NZ**
Basic specs		220-240V 50/60HZ	220-240V 50/60HZ	220-240V 50/60HZ
Item number:		107420040	107420041	107420042
Airflow with included hose	l/s	33,5	33,5	33,5
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3700	3700
Vacuum	mbar	245	245	245
Power Piec	W	1200	1200	1200
Power Max	W	1500	1500	1500
Sound pressure level @1m	dB(A)	69	69	69
Working sound level @3m	dB(A)	61	61	61
Container volume	L	25	25	25
Container type		Plastic	Plastic	Plastic
Electrical connection	V/~/Hz/A	230/1/50-60/16	230/1/50-60/10	240/1/50-60/10
Max power for electric tools	W	1100/2400	1100	1100
Weight (machine only)	Kg	8	8	8
Cable length	m	7,5	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	H05VV-F 3X1.5 PVC Orange	H05VV-F 3X1.5 PVC Orange
Switch type		Rotary	Rotary	Rotary
PCB		P1 (P2)	P1	P1
Filter system				
Dust Class		L	L	L
Hose diameter setting				
Air velocity alarm				
Filter cleaning system		Push&Clean	Push&Clean	Push&Clean
Features				
Anti-static system		I	I	I
PTO - Bluetooth activation				
PTO - with tool start		I	I	I
PTO - powered when machine is off				
Outlet fuse (AU/NZ)				I
Hose inlet plug				
Bluetooth extention board				
Remote start/stop control UI				
Container lifting handle		I	I	I
Rubber strap for cable storage		I	I	I
Tube parking 2-point		I	I	I
Size L x W x H	mm	375x390x530	375x390x530	375x390x530
Approvals		CE	CE	CE

AERO 26-2M PC EU

		AERO 26-2M PC EU	AERO 26-2M PC GB	AERO 26-2M PC GB	AERO 26-2M PC US
Basic specs		220-240V 50/60HZ	110V 50/60HZ	220-240V 50/60HZ	120V 50/60HZ
Item number:		107420043	107420044	107420045	107420046
Airflow with included hose	l/s	33,5	29	33,5	31
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3600	3700	3600
Vacuum	mbar	245	210	245	210
Power Piec	W	1200	1000	1200	1000
Power Max	W	1500	1250	1500	
Sound pressure level @1m	dB(A)	69	69	69	69
Working sound level @3m	dB(A)	61	61	61	61
Container volume	L	25	25	25	25
Container type		Plastic	Plastic	Plastic	Plastic
Electrical connection	V/~/Hz/A	230/1/50-60/16	110/1/50-60/16	230V/50-60/13	120V/50-60/15
Max power for electric tools	W	1100/2400	750	1750	400
Weight (machine only)	Kg	8	8	8	8
Cable length	m	7,5	7,5	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	H07BQ-F 3X1.5 Yellow	H05VV-F 3X1.5 PVC Orange	AWG 14/3 Orange
Switch type		Rotary 5 pos	Rotary 5 pos	Rotary 5 pos	Rotary 5 pos
PCB		P53	P53	P53	P53
Filter system					
Dust Class		M	M	M	M
Hose diameter setting		Ø21/Ø32	Ø21/Ø32	Ø21/Ø32	Ø21/Ø32
Air velocity alarm		Buzzer	Buzzer	Buzzer	Buzzer
Filter cleaning system		Push&Clean	Push&Clean	Puch&Clean	Push&Clean
Features		I			
Anti-static system		I	I	I	I
PTO - with tool start			I	I	I
PTO - powered when machine is off		I	I	I	I
Outlet fuse (AU/NZ)					
Hose inlet plug		I	I	I	I
Bluetooth extention board					
Remote start/stop control UI					
Container lifting handle		I	I	I	I
Rubber strap for cable storage		I	I	I	I
Tube parking 2-point		I	I	I	I
Size L x W x H	mm	375x390x530	375 x 392 x 530	375 x 392 x 530	375 x 392 x 530
Approvals		CE	CE	CE	UL

		AERO 26-W2M PC			
		AERO 26-W2M PC EU	AERO 26-W2M PC AU/NZ	AERO 26-W2M PC CH	AERO 26-W2M PC US
Basic specs		220-240V 50/60HZ	220-240V 50/60HZ	220-240V 50/60HZ	120V 50/60HZ
Item number:		107420047	107420048	107420049	107420050
Airflow with included hose	l/s	33,5	33,5	33,5	31
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3700	3700	3600
Vacuum	mbar	245	245	245	210
Power Piec	W	1200	1200	1200	1000
Power Max	W	1500	1500	1500	
Sound pressure level @1m	dB(A)	69	69	69	69
Working sound level @3m	dB(A)	61	61	61	61
Container volume	L	25	25	25	25
Container type		Plastic	Plastic	Plastic	Plastic
Electrical connection	V/~/Hz/A	230/1/50-60/16	240V/50-60/10	230V/50-60/10	120V/50-60/15
Max power for electric tools	W	1100/2400	1100	1100	400
Weight (machine only)	Kg	8	8	8	8
Cable length	m	7,5	7,5	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	H05VV-F 3X1.5 PVC Orange	H05VV-F 3X1.5 PVC Orange	AWG 14/3 Orange
Switch type		Rotary 5 pos	Rotary 5 pos	Rotary 5 pos	Rotary 5 pos
PCB		P53	P53	P53	P53
Filter system					
Dust Class		M	M	M	M
Hose diameter setting		Ø21/Ø32	Ø21/Ø32	Ø21/Ø32	Ø21/Ø32
Air velocity alarm		Buzzer	Buzzer	Buzzer	Buzzer
Filter cleaning system		Push&Clean	Push&Clean	Push&Clean	Push&Clean
Features					
Anti-static system		I	I	I	I
PTO - Bluetooth activation		I	I	I	I
PTO - with tool start		I	I	I	I
PTO - powered when machine is off		I	I	I	I
Outlet fuse (AU/NZ)			I	I	I
Hose inlet plug		I	I	I	I
Bluetooth extention board		I	I	I	I
Remote start/stop control UI			I		
Container lifting handle		I	I	I	I
Rubber strap for cable storage		I	I	I	I
Tube parking 2-point		I	I	I	I
Size L x W x H	mm	375x390x530	375x390x530	375x390x530	375x390x530
Approvals		CE	CE	CE	UL

Nilfisk

Basic specs		**AERO 21-0H PC**
		AERO 21-0H PC EU
		220-240V 50/60HZ
Item number:		107420062
Airflow with included hose	l/s	31
Airflow machine only Ø50x1000 (marketing)	l/m	3600
Vacuum	mbar	210
Power Piec	W	1000
Power Max	W	1250
Sound pressure level @1m	dB(A)	69
Working sound level @3m	dB(A)	61
Container volume	L	20
Container type		Plastic
Electrical connection	V/~/Hz/A	230V/50-60/16
Max power for electric tools	W	
Weight (machine only)	Kg	6,5
Cable length	m	5
Cable type		H05VV-F 2X0,75 PVC Black
Switch type		Tilt switch
PCB		P53
Filter system		
Dust Class		H
Hose diameter setting		None
Air velocity alarm		Buzzer
Filter cleaning system		Push&Clean
Features		
Anti-static system		
PTO - Bluetooth activation		
PTO - with tool start		
PTO - powered when machine is off		
Outlet fuse (AU/NZ)		
Hose inlet plug		I
Bluetooth extention board		
Remote start/stop control UI		
Container lifting handle		
Rubber strap for cable storage		
Tube parking 2-point		I
Size L x W x H	mm	375x390x530
Approvals		CE

Nilfisk

AERO 26-2H PC		AERO 26-2H PC EU	AERO 26-2H PC GB
Basic specs		220-240V 50/60HZ	110V 50/60HZ
Item number:		107420051	107420052
Airflow with included hose	l/s	33	28
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3600
Vacuum	mbar	245	210
Power Piec	W	1200	1000
Power Max	W	1500	1250
Sound pressure level @1m	dB(A)	69	69
Working sound level @3m	dB(A)	61	61
Container volume	L	25	25
Container type		Plastic	Plastic
Electrical connection	V/~/Hz/A	230V/50-60/16	110V/50-60/16
Max power for electric tools	W	1100/2400	750
Weight (machine only)	Kg	8	8
Cable length	m	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	H07BQ-F 3X1.5 Yellow
Switch type		Rotary 5 pos	Rotary 5 pos
PCB		P53	P53
Filter system			
Dust Class		H	H
Hose diameter setting		Ø21/Ø32	Ø21/Ø32
Air velocity alarm		Buzzer	Buzzer
Filter cleaning system		Push&Clean	Push&Clean
Features			
Anti-static system		I	I
PTO - Bluetooth activation			
PTO - with tool start		I	I
PTO - powered when machine is off		I	I
Outlet fuse (AU/NZ)			
Hose inlet plug		I	I
Bluetooth extention board			
Remote start/stop control UI			
Container lifting handle		I	I
Rubber strap for cable storage		I	I
Tube parking 2-point		I	I
Size L x W x H	mm	375x390x530	375x390x530
Approvals		CE	CE

Nilfisk

AERO 26-2H PC		AERO 26-2H PC GB	AERO 26-2H PC US
Basic specs		220-240V 50/60HZ	120V 50/60HZ
Item number:		107420053	107420054
Airflow with included hose	l/s	33	30
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3600
Vacuum	mbar	235	210
Power Piec	W	1200	1000
Power Max	W	1500	
Sound pressure level @1m	dB(A)	69	69
Working sound level @3m	dB(A)	61	61
Container volume	L	25	25
Container type		Plastic	Plastic
Electrical connection	V/~/Hz/A	230V/50-60HZ/13	120V/50-60HZ/15
Max power for electric tools	W	1750	400
Weight (machine only)	Kg	8	8
Cable length	m	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	AWG 14/3 Orange
Switch type		Rotary 5 pos	Rotary 5 pos
PCB		P53	P53
Filter system			
Dust Class		H	H
Hose diameter setting		Ø21/Ø32	Ø21/Ø32
Air velocity alarm		Buzzer	Buzzer
Filter cleaning system		Puch&Clean	Push&Clean
Features			
Anti-static system		I	I
PTO - Bluetooth activation			
PTO - with tool start		I	I
PTO - powered when machine is off		I	I
Outlet fuse (AU/NZ)			
Hose inlet plug		I	I
Bluetooth extention board			
Remote start/stop control UI			
Container lifting handle		I	I
Rubber strap for cable storage		I	I
Tube parking 2-point		I	I
Size L x W x H	mm	375x390x530	375x390x530
Approvals		CE	UL

Nilfisk

B

AERO 26-W2H PC		AERO 26-W2H PC EU	AERO 26-W2H PC AU/NZ
Basic specs		220-240V 50/60HZ	220-240V 50/60HZ
Item number:		107420055	107420056
Airflow with included hose	l/s	33	33
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3700
Vacuum	mbar	245	245
Power Piec	W	1200	1200
Power Max	W	1500	1500
Sound pressure level @1m	dB(A)	69	69
Working sound level @3m	dB(A)	61	61
Container volume	L	25	25
Container type		Plastic	Plastic
Electrical connection	V/~/Hz/A	230/1/50-60/16	240V/50-60HZ/10
Max power for electric tools	W	1100/2400	1100
Weight (machine only)	Kg	8	8
Cable length	m	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	H05VV-F 3X1.5 PVC Orange
Switch type		Rotary 5 pos	Rotary 5 pos
PCB		P53	P53
Filter system			
Dust Class		H	H
Hose diameter setting		Ø21/Ø32	Ø21/Ø32
Air velocity alarm		Buzzer	Buzzer
Filter cleaning system		Push&Clean	Push&Clean
Features			
Anti-static system		I	I
PTO - Bluetooth activation		I	I
PTO - with tool start		I	I
PTO - powered when machine is off		I	I
Outlet fuse (AU/NZ)			I
Hose inlet plug		I	I
Bluetooth extention board		I	I
Remote start/stop control UI		I	I
Container lifting handle		I	I
Rubber strap for cable storage		I	I
Tube parking 2-point		I	I
Size L x W x H	mm	375x390x530	375x390x530
Approvals		CE	CE

Nilfisk

AERO 26-W2H PC		AERO 26-W2H PC CH	AERO 26-W2H PC US
Basic specs		220-240V 50/60HZ	120V 50/60HZ
Item number:		107420057	107420058
Airflow with included hose	l/s	33	30
Airflow machine only Ø50x1000 (marketing)	l/m	3700	3600
Vacuum	mbar	245	210
Power Piec	W	1200	1000
Power Max	W	1500	
Sound pressure level @1m	dB(A)	69	69
Working sound level @3m	dB(A)	61	61
Container volume	L	25	25
Container type		Plastic	Plastic
Electrical connection	V/~/Hz/A	230V/50-60HZ/13	120V/50-60HZ/15
Max power for electric tools	W	1100	400
Weight (machine only)	Kg	8	8
Cable length	m	7,5	7,5
Cable type		H05VV-F 3X1.5 PVC Orange	AWG 14/3 Orange
Switch type		Rotary 5 pos	Rotary 5 pos
PCB		P53	P53
Filter system			
Dust Class		H	H
Hose diameter setting		Ø21/Ø32	Ø21/Ø32
Air velocity alarm		Buzzer	Buzzer
Filter cleaning system		Push&Clean	Push&Clean
Features			
Anti-static system		I	I
PTO - Bluetooth activation		I	I
PTO - with tool start		I	I
PTO - powered when machine is off		I	I
Outlet fuse (AU/NZ)			
Hose inlet plug		I	I
Bluetooth extention board		I	I
Remote start/stop control UI		I	I
Container lifting handle		I	I
Rubber strap for cable storage		I	I
Tube parking 2-point		I	I
Size L x W x H	mm	375x390x530	375x390x530
Approvals		CE	UL

All AERO models:

AERO 26-2L PC		
AERO 26-2L PC EU	AERO 26-2L PC CH	AERO 26-2L PC AU/NZ
220-240V 50/60HZ	220-240V 50/60HZ	220-240V 50/60HZ
107420040	107420041	107420042

AERO 26-2M PC EU			
AERO 26-2M PC EU	AERO 26-2M PC GB	AERO 26-2M PC GB	AERO 26-2M PC US
220-240V 50/60HZ	110V 50/60HZ	220-240V 50/60HZ	120V 50/60HZ
107420043	107420044	107420045	107420046

AERO 26-W2M PC			
AERO 26-W2M PC EU	AERO 26-W2M PC AU/NZ	AERO 26-W2M PC CH	AERO 26-W2M PC US
220-240V 50/60HZ	220-240V 50/60HZ	220-240V 50/60HZ	120V 50/60HZ
107420047	107420048	107420049	107420050

AERO 21-0H PC
AERO 21-0H PC EU
220-240V 50/60HZ
107420062

AERO 26-2H PC			
AERO 26-2H PC EU	AERO 26-2H PC GB	AERO 26-2H PC GB	AERO 26-2H PC US
220-240V 50/60HZ	110V 50/60HZ	220-240V 50/60HZ	120V 50/60HZ
107420051	107420052	107420053	107420054

AERO 26-W2H PC			
AERO 26-W2H PC EU	AERO 26-W2H PC AU/NZ	AERO 26-W2H PC CH	AERO 26-W2H PC US
220-240V 50/60HZ	220-240V 50/60HZ	220-240V 50/60HZ	120V 50/60HZ
107420055	107420056	107420057	107420058

Overview of different types of motor heads

26-2L PC
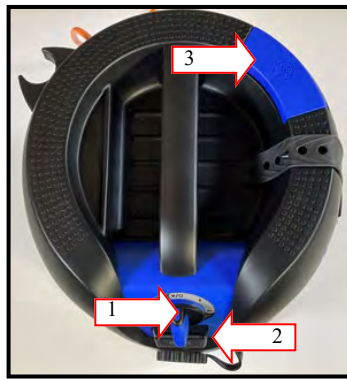
26-2M PC

1.	On/ off & variable speed
2.	Tool socket
3.	Filter cleaning
4.	Resettable fuse (5 amp.) - **ONLY for AU/NZ**
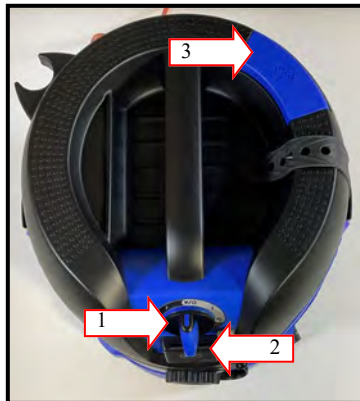
26-W2H PC

21-0H PC

26-W2H PC_AU/NZ

A 5 amp. thermal fuse for the power outlet socket is installed in the AU/ NZ models. If power consumption gets too high the thermal fuse cut off the power to the outlet socket. The thermal fuse can be deactivated by pressing the knob.

Overview of different types of containers

14/33

Container 26-L,M & H PC
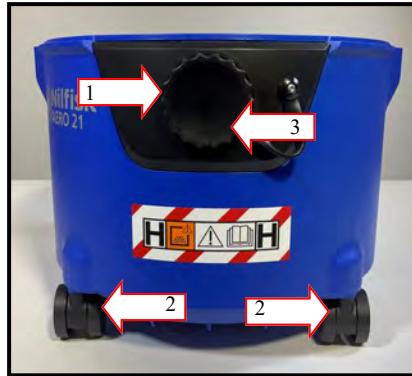
Container 21-0H PC

1. Inlet
2. Castor wheels
3. Inlet plug

Overview of the motor head

21-0H PC

26 L, M & H

Description:

This is a general over-
view of how the motor
heads will look* like from
the above.

* Please expect some
minor difference be-
tween the models.

Disassembling/assembling of the cover
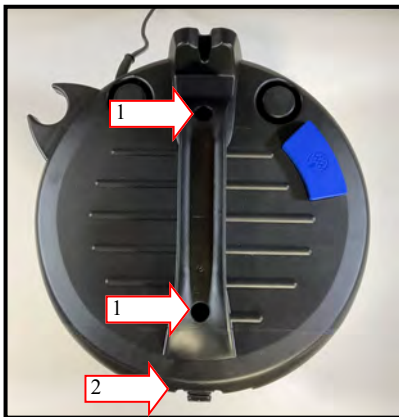
21-0H PC

1. Position of screws—Torque 2 Nm
2. Pull gently outwards in the black plastic, just over the inlet

   Lift gently in the cover.

26 L, M & H

1. Pull up the handle cover.

Disassembling/assembling of the cover
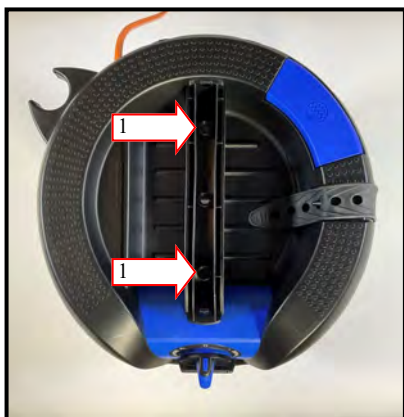
26 L, M & H

1. Position of screws—Torque 2 Nm
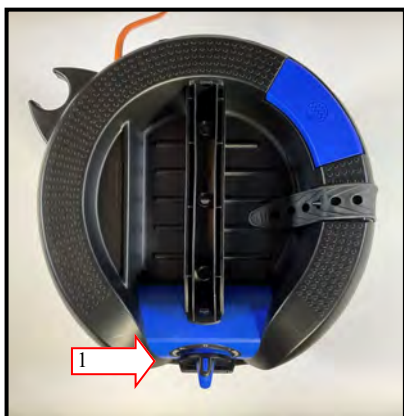
26 L, M & H

1. Pull gently outward in the black plastic, just over the inlet

    Lift gently in the cover.

Air guide plate
Overview and disassembly/assembly of the air guide plate

21-0H PC
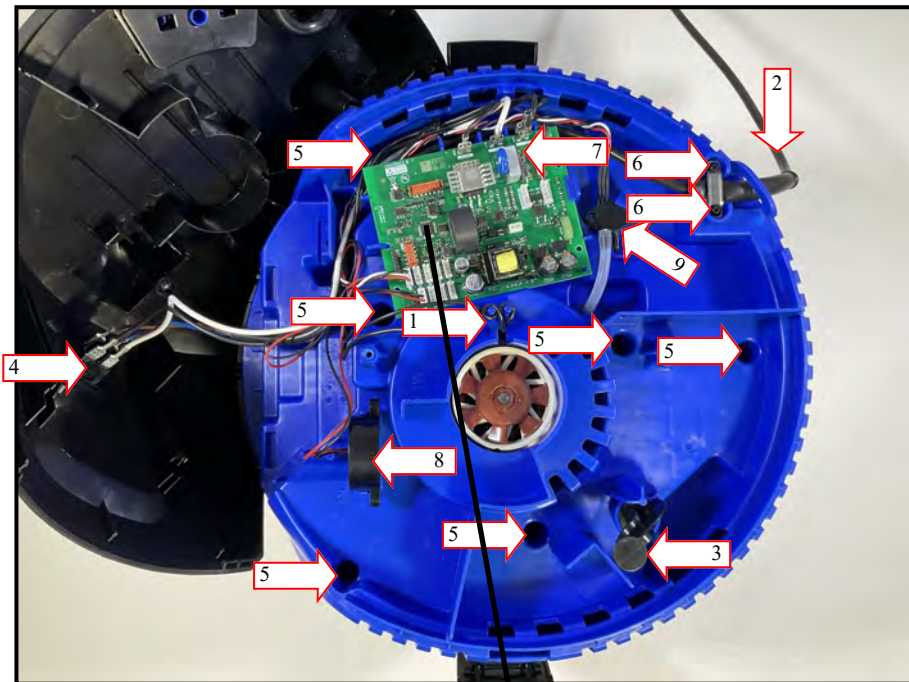
1. Wire to motor unit
2. Power supply cable
3. Push & Clean extender arm
4. ON/IOFF switch
5. Position for screws
6. Screws for cable relief
7. PCBA
8. Buzzer sound
9. Pressure switch

5. Torque for screws pos. 5 is <u>2 Nm</u>.

6. Torque for screws pos. 6 is <u>0,8 Nm</u>.

Do NOT use this picture as an electrical connection guide.
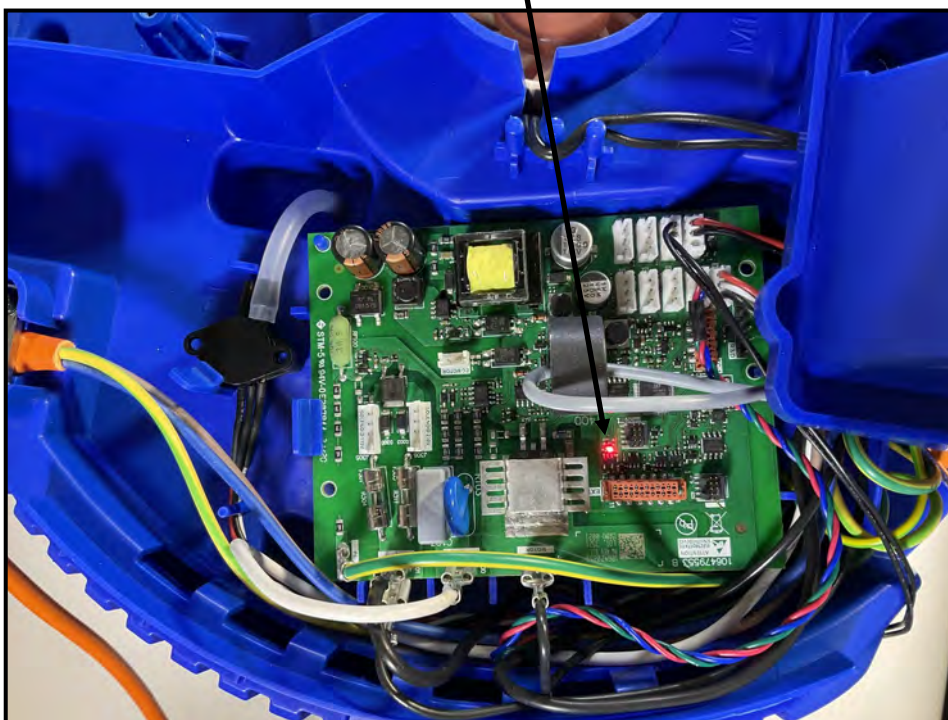
The small LED light (marked with black arrow) indicates with constant light the PCBA/program is OK and running.
Light must turn ON when ON/OFF switch is turned to "I"

Models: 26-2L, 26-2M, 26-2H, 26-W2H
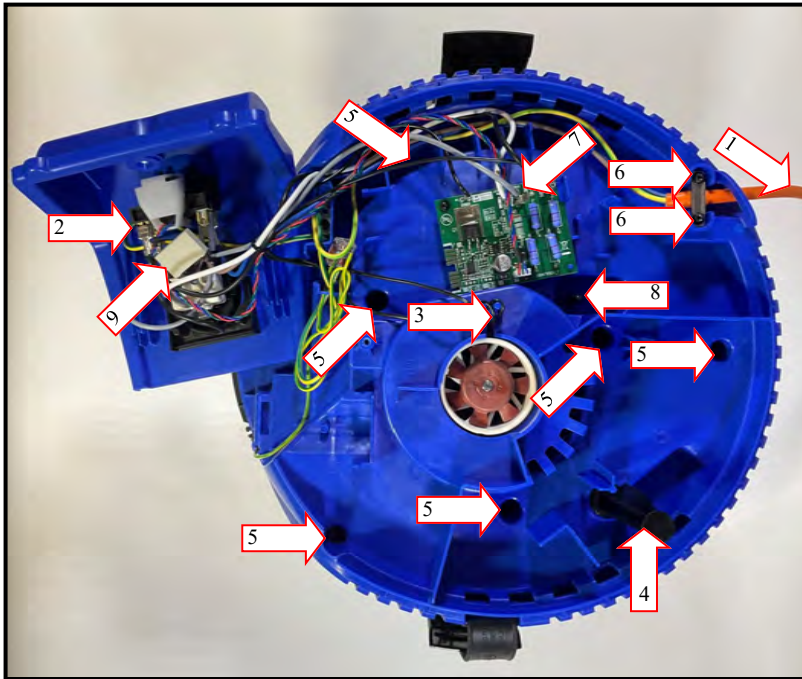
26-2L PC

1. Power cable
2. ON/OFF switch
3. Wire to motor unit
4. Push & Clean extender arm
5. Position of screws
6. Screws for cable relief
7. PCBA
8. Plug for air connection.
9. Capacitor—noise reduction

Do NOT use this picture as an electrical connection guide.
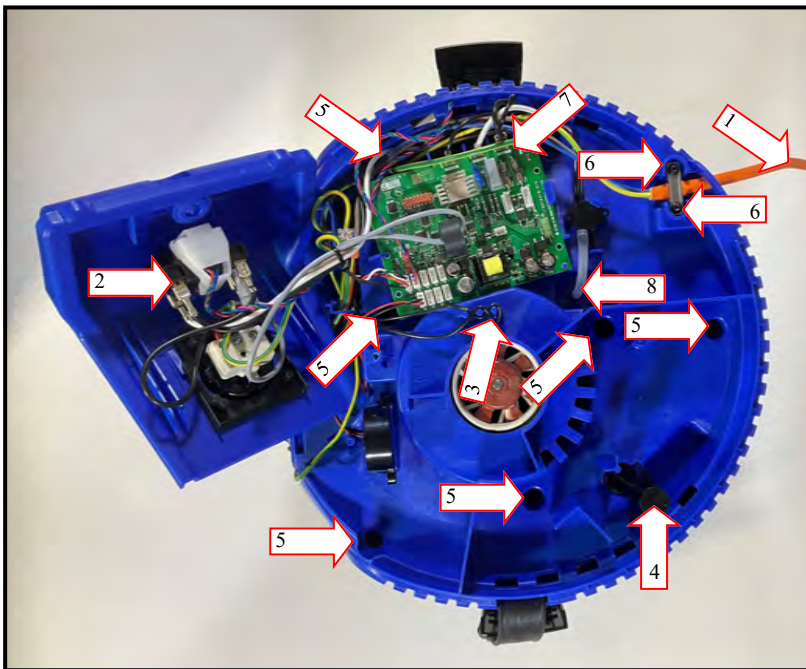
26-2M, 26-2H, 26-W2H PC

1. Power cable
2. ON/OFF switch
3. Wire to motor unit
4. Push & Clean extender arm
5. Position of screws
6. Screws for cable relief
7. PCBA
8. Air hose
9. Pressure switch

10. Buzzer

Do NOT use this picture as an electrical connection guide.

Bottom plate
Overview and disassembly/assembly of the bottom plate
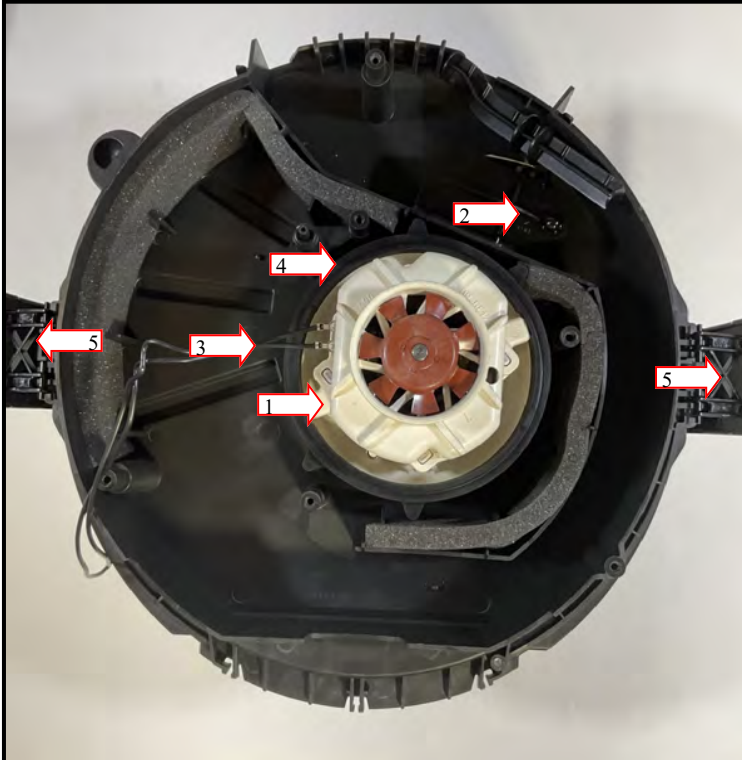
All models

1. Motor unit
2. Push & Clean system
3. Motor unit wires
4. Gaskets
5. Container locks

Anti-static model
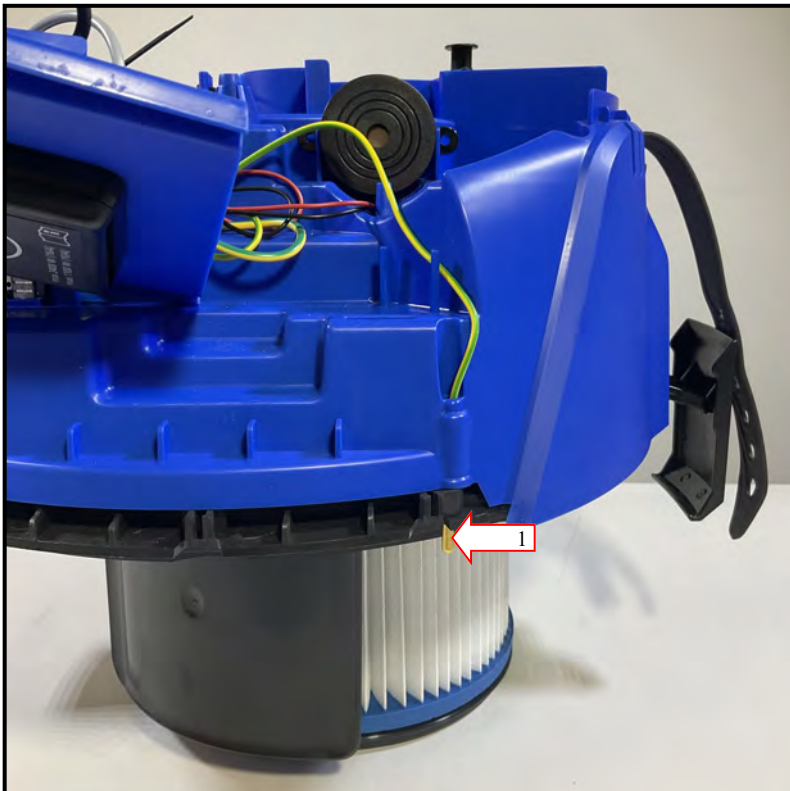
1. Anti-static connection pin

Filter plate
Overview and disassembly/assembly of the filter plate

1.   Filter tension

Rotate and lift to remove.

1.   Filter
2.   Deflector plate
3.   Hole for airflow

Remove filter

Nilfisk

Models: H-Class filter

1. Tool for H-filter
2. Hexagon for toll
3. Tool for filter positioned on filter
4. Deflector plate
5. Filter
6. Hole for airflow
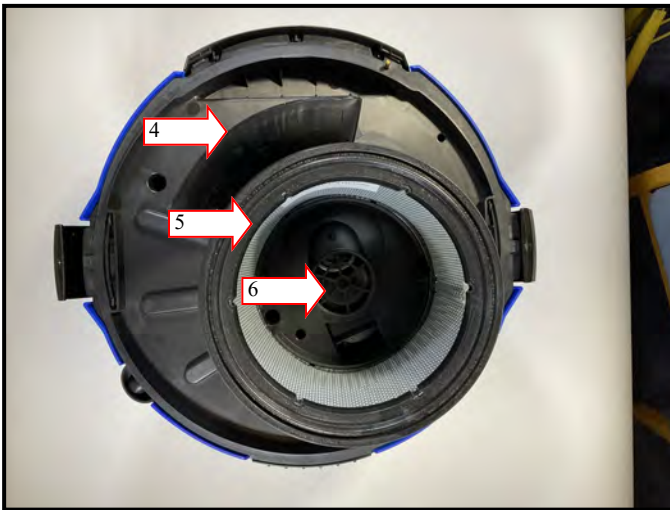
Rotate and lift filter element to remove.
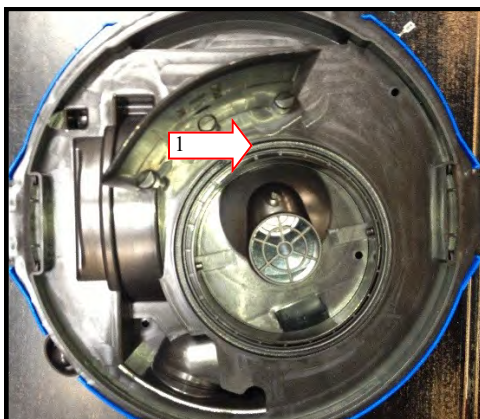
1. Filter gasket
2. Float—same on all models

Container
Overview and disassembly/assembly of the container

All

1. Castor wheels

    Pull to remove.

2. Back wheels

    Squeeze the inner part to remove

AERO for AU/NZ with resettable fuse

Pos. 1 Resettable fuse
Pos. 2 Socket outlet

An external power tool can be connected to the socket outlet. The socket has a 5 Amp thermal fuse to protect the machine against overload.
If the power consumption gets too high the thermal fuse activates and cut off the power on the socket outlet.
The thermal fuse can be deactivated again by pressing the knob.

The maximum power consumption of the connected power tool is stated in the section "Specifications" in the user manual.

Calibration is needed when a new the PCBA is installed in a machine.

First loosen the 2 screws for the handle and remove the handle.
Remove the head cover from the machine
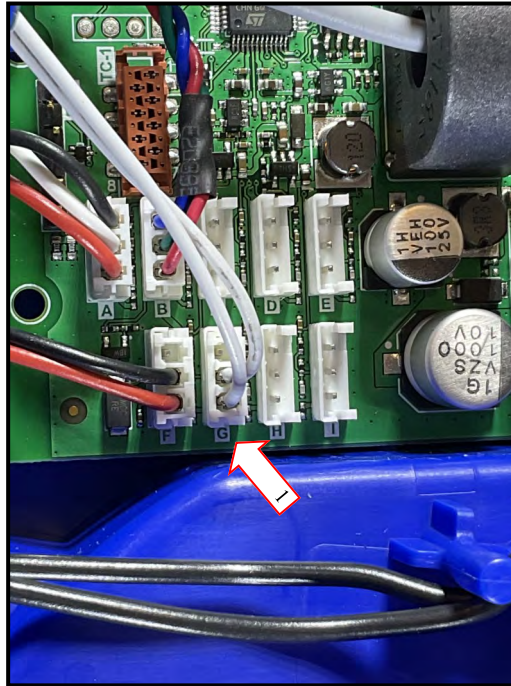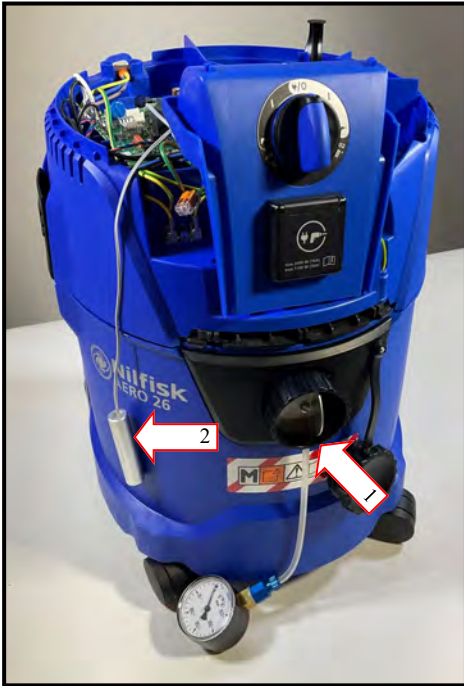
Install the air restrictor w/ manometer (pos. 1) in the container inlet.
Also install the Calibration switch (pos. 2) on terminal "G" on the PCBA.

Terminal "G" on PCBA
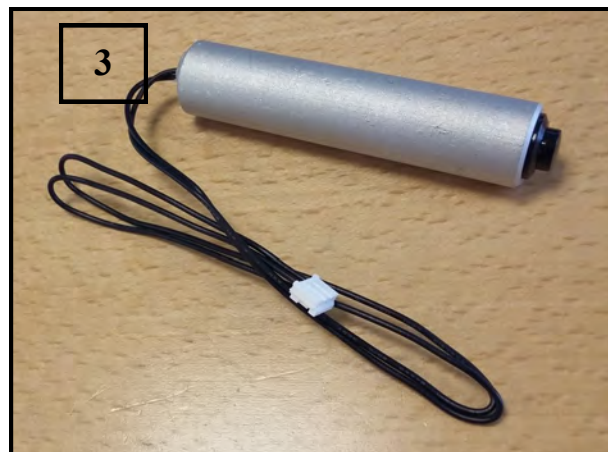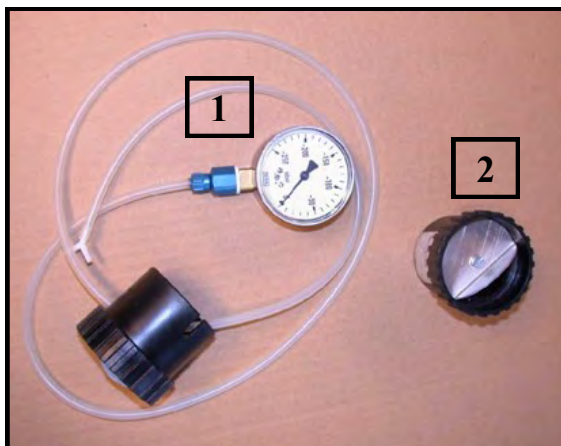
Calibration of Pressure Switch

With the test equipment installed on the machine—start the motor. (Turn start/stop switch to pos. "I")

Adjust the opening plate (see pic below) on the air restrictor until you reach the specified mBar pressure (read value on manometer) for the machine you are testing. Mbar specifications for various models are listed below.

Calibration values in mbar		
Item No.	**Model**	**Setting mbar**
107420043	AERO 26-2M PC EU	175
107420044	AERO 26-2M PC GB	150
107420045	AERO 26-2M PC GB	175
107420046	AERO 26-2M PC US	170
107420047	AERO 26-W2M PC EU	175
107420048	AERO 26-W2M PC AU/NZ	175
107420049	AERO 26-W2M PC CH	175
107420050	AERO 26-W2M PC US	170
107420062	AERO 21-0H PC EU	140
107420051	AERO 26-2H PC EU	175
107420052	AERO 26-2H PC GB	150
107420053	AERO 26-2H PC GB	175
107420054	AERO 26-2H PC US	170
107420055	AERO 26-W2H PC EU	175
107420056	AERO 26-W2H PC AU/NZ	175
107420057	AERO 26-W2H PC CH	175
107420058	AERO 26-W2H PC US	170

⇒ Let the motor run for min. 3 minutes.
⇒ Check on the manometer after 3 minutes that you still measure the specified Mbar, adjust the air restrictor if needed. (See calibration specs (mbar) on previous page)
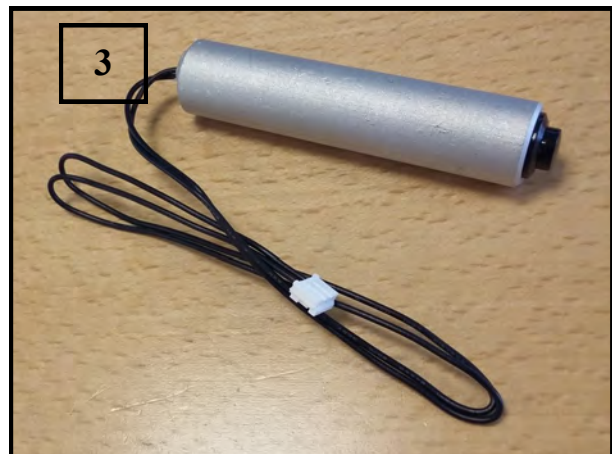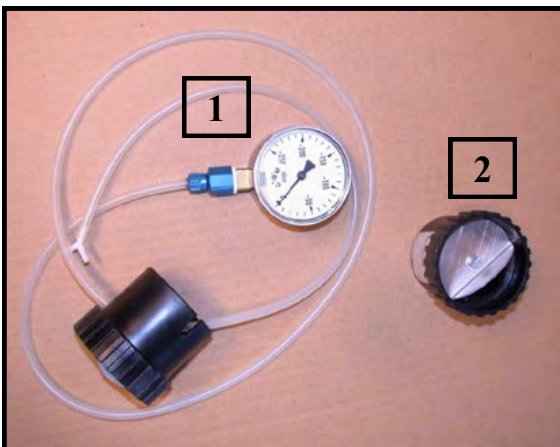⇒ Push and hold the calibration switch for 10 sec. See pic below.

Still with the motor running, place a finger on the air restrictor opening and check the Buzzer comes on 7 sec. after you reduced the opening by placing your finger.
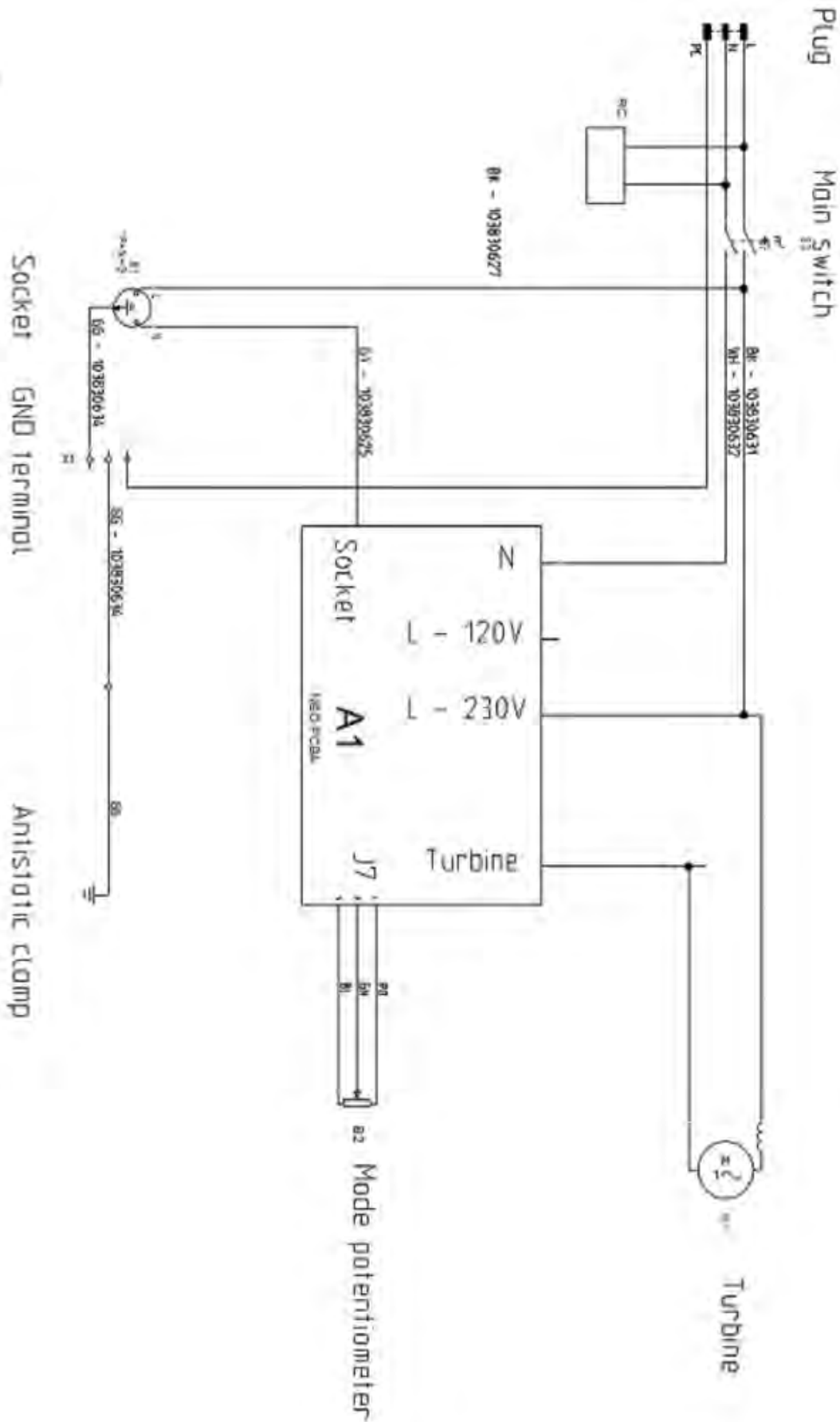
Torx screw driver T25
Torx screw driver T10
Hobby knife or similar
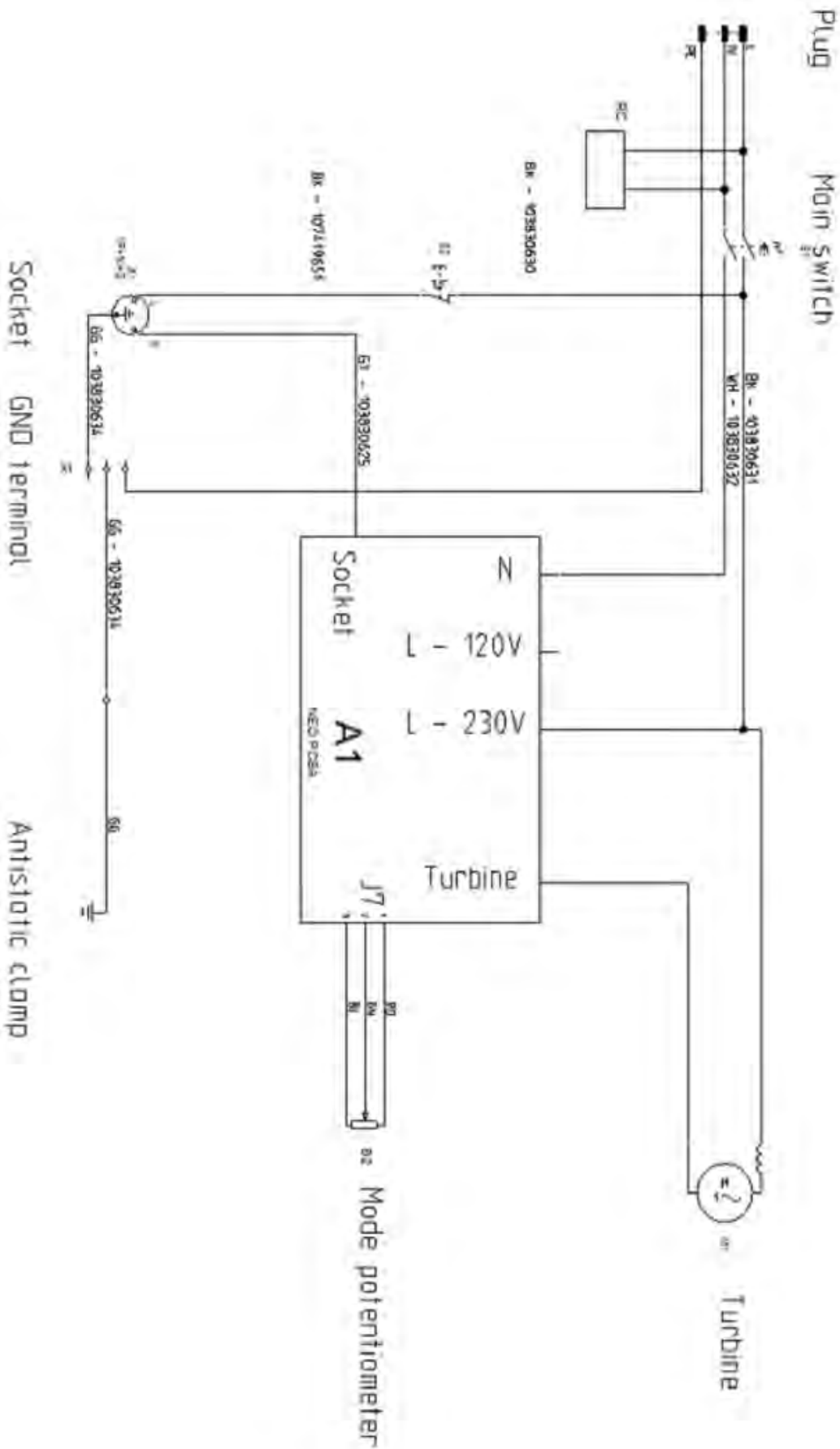Cable cutter for solid cables

1. Manometer setting tool   **P/N 40434**
2. Air restrictor setting tool   **P/N 62480**
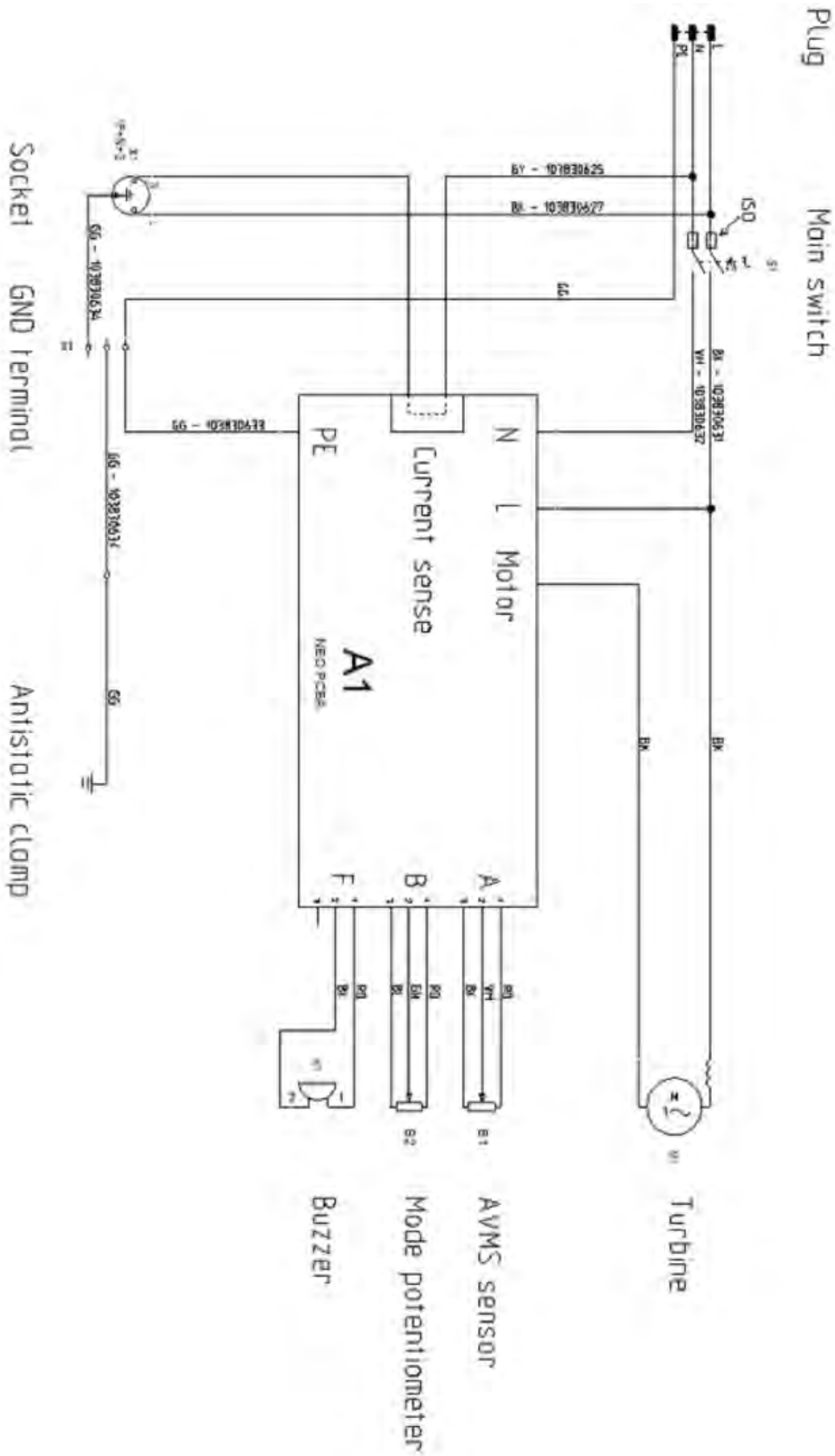3. **Callibration switch**   **P/N 107416579**
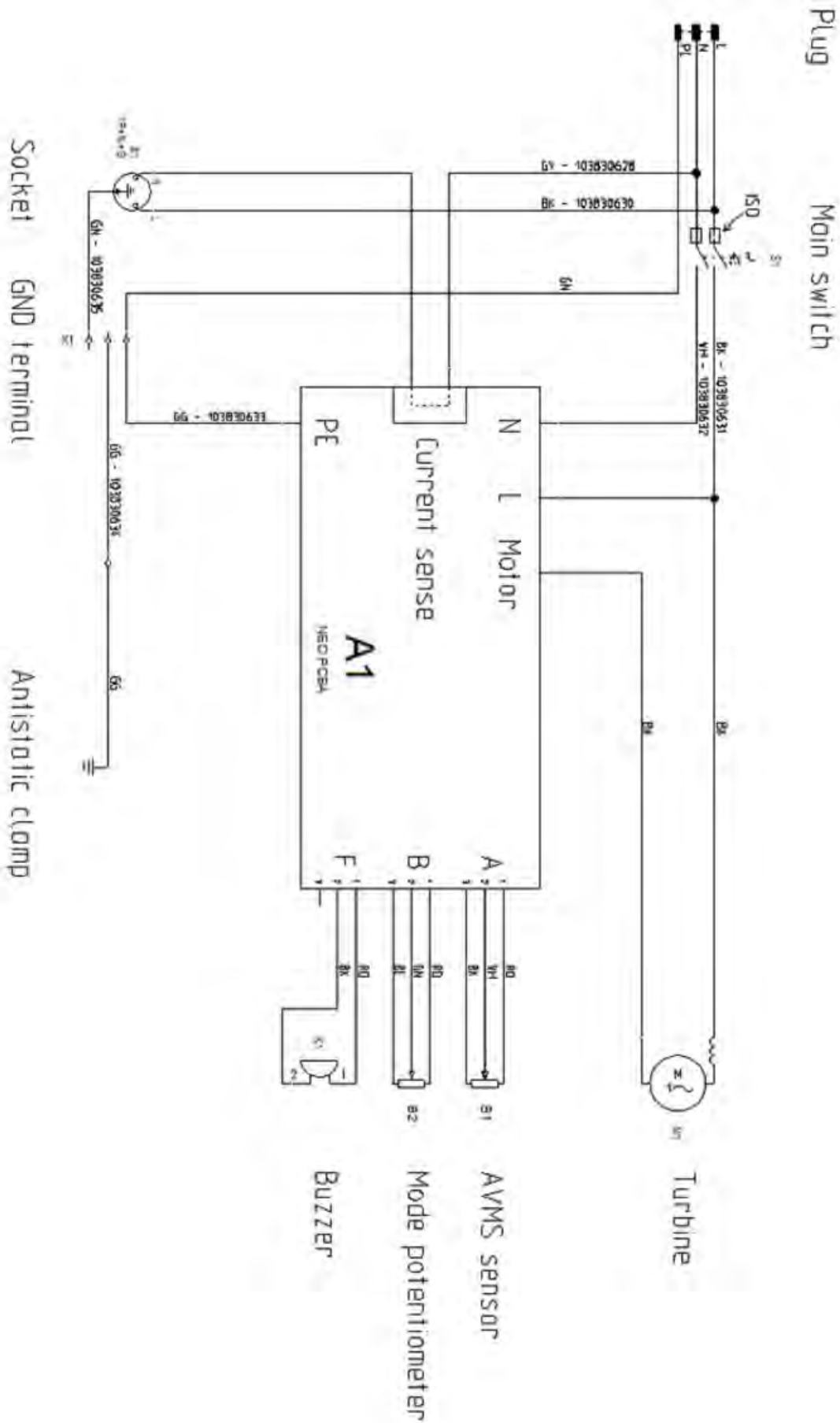
Model: AERO 26-2L_230V—106425218

F

Model: AERO 26-2L_230V AU/NZ—106425212

Plug

Main Switch

Socket GND terminal

Antistatic clamp

Socket A1
NEO PCBA

N

L – 120V

L – 230V

Turbine

Mode potentiometer

Turbine

Model: AERO 26-2M/H_120V US—106425219

Model: AERO 26-W1 M/H AU/NZ—106425215

Model: AERO 0H—6425220