

NT 45/1 Tact Te Ec Service Manual



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1 Preface

Good service work requires extensive and practice-oriented training as well as well-structured training materials.

Hence we offer regular basic and advanced training programmes covering the entire product range for all service engineers.

In addition to this, we also prepare service manuals for important appliances - these can be initially used as instruction guides and later on as reference guides.

Apart from this, we also regular information about product enhancements and their servicing.

If you should require supplements, have corrections or questions regarding this document, please address these citing the following subject to:

international-service@de.kaercher.com

Subject:	Fall 109891
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The responsible product specialist will take care of your issue.

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2 Safety instructions

2.1 Hazard levels

⚠ Danger

Immediate danger that can cause severe injury or even death.

⚠ Warning

Possible hazardous situation that could lead to severe injury or even death.

Caution

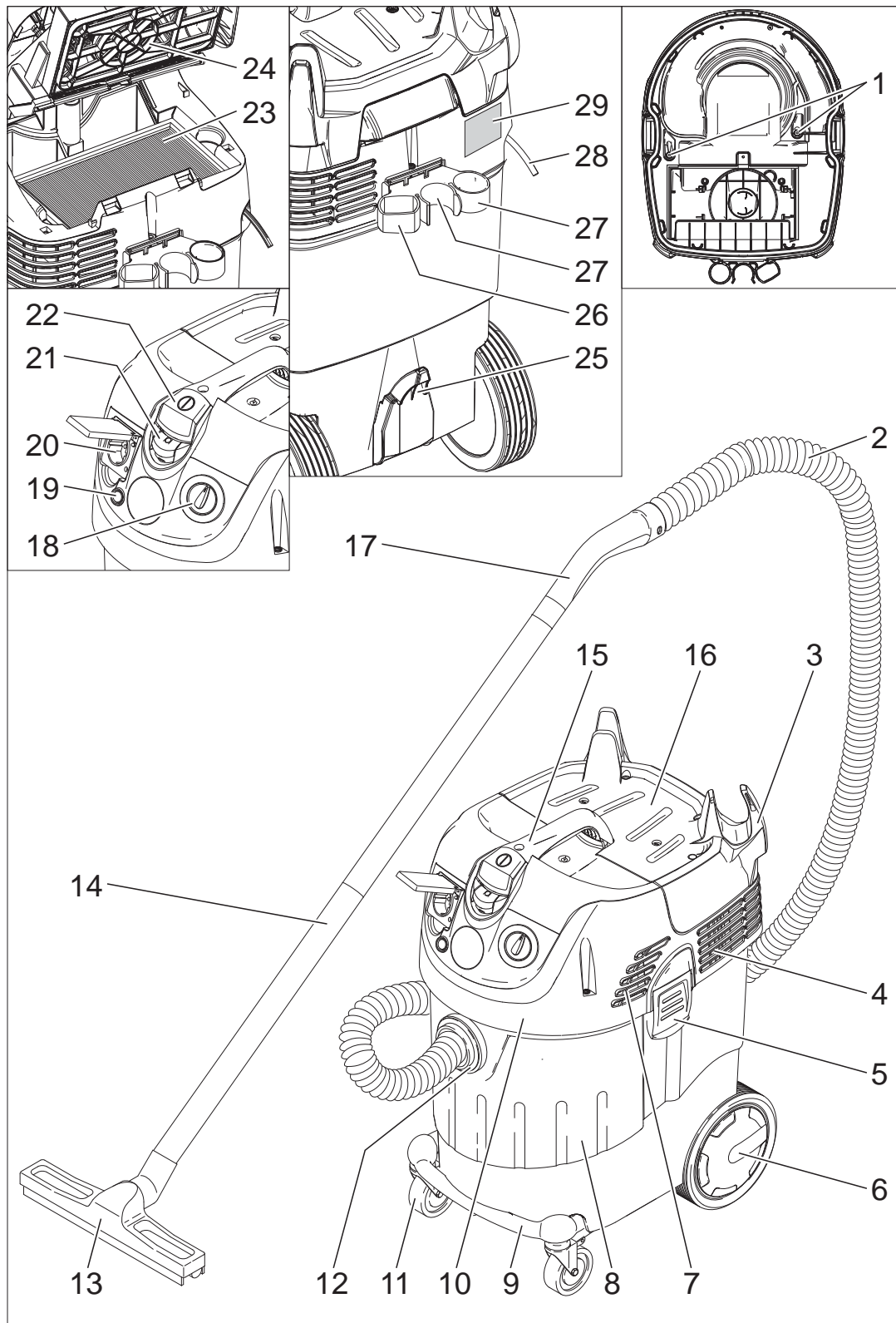
Possible hazardous situation that could lead to mild injury to persons or damage to property.

3 Technical Features

Structure:

- Brushless electric motor allows a long product life.
- Automatic filter dedusting
- Socket
- Stepless regulation of the suction force.
- Cable hooks for suction hose cable coiling system.
- Suction hose connection with bayonet system.
- Holder for floor nozzle, suction pipes and crevice nozzle.
- In addition to the main filter, a filter bag may be used.

4 Parts of the system



- | | |
|--------------------------------|---|
| 1 Electrodes | 13 Floor nozzle |
| 2 Suction hose | 14 Suction pipe |
| 3 Cable hook | 15 Carrying handle |
| 4 Air outlet, working air | 16 Filter cover |
| 5 Suction head lock | 17 Bender |
| 6 Impeller | 18 Rotary switch for suction output (min-max) |
| 7 Air inlet, motor cooling air | 19 Indicator lamp |
| 8 Dirt receptacle | 20 Socket |
| 9 Steering roller bow | 21 Automatic filter dedusting |
| 10 Suction head | 22 Main switch |
| 11 Steering roller | 23 Flat fold filter |
| 12 Suction support | 24 Filter dedusting |

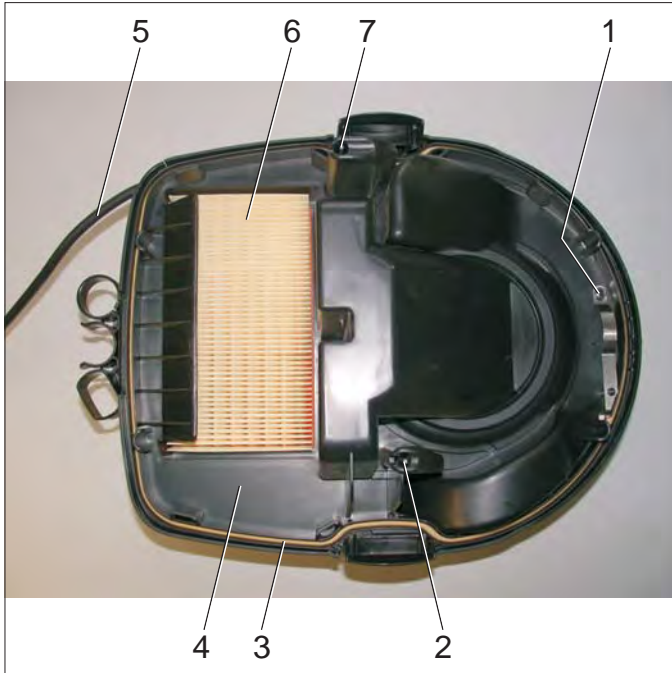
- 25 Floor nozzle holder
- 26 Holder for floor nozzle
- 27 Holder for suction pipes
- 28 Power cord
- 29 Nameplate

5 Basic settings and service procedures

⚠ Danger

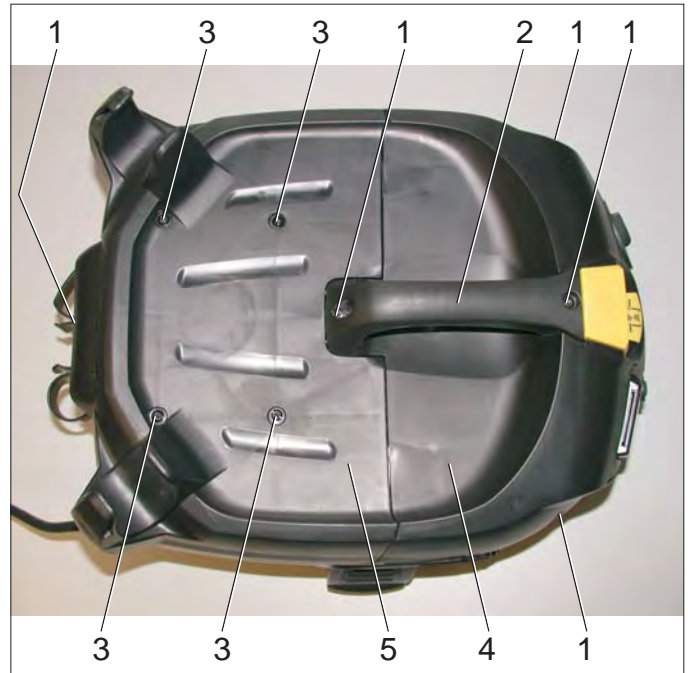
First pull out the plug from the mains before carrying out any tasks on the machine.

5.1 Suction head (view from below)



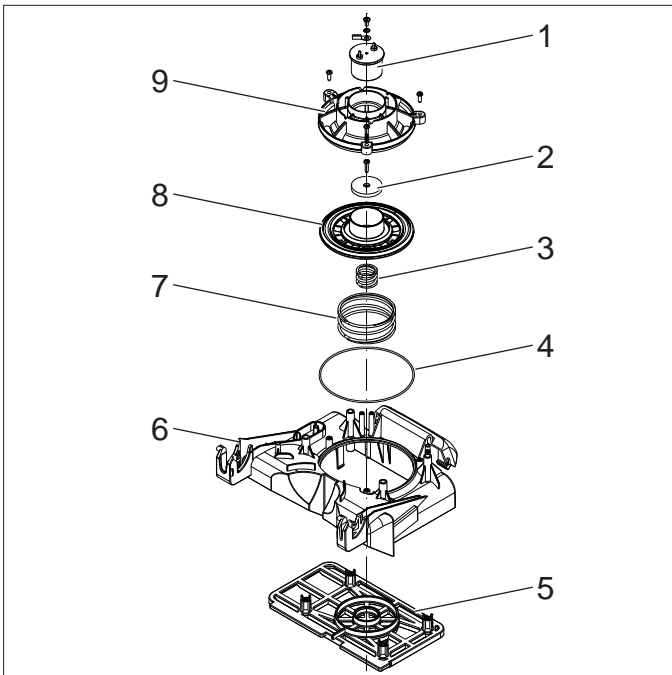
- 1 Grounding contact
 - 2 Left electrode
 - 3 Rubber foam string
 - 4 Filter casing
 - 5 Power cord
 - 6 Flat fold filter
 - 7 Right electrode
- ➔ Replace the moss rubber string, grounding contact if necessary.

5.2 Suction head (view from above)



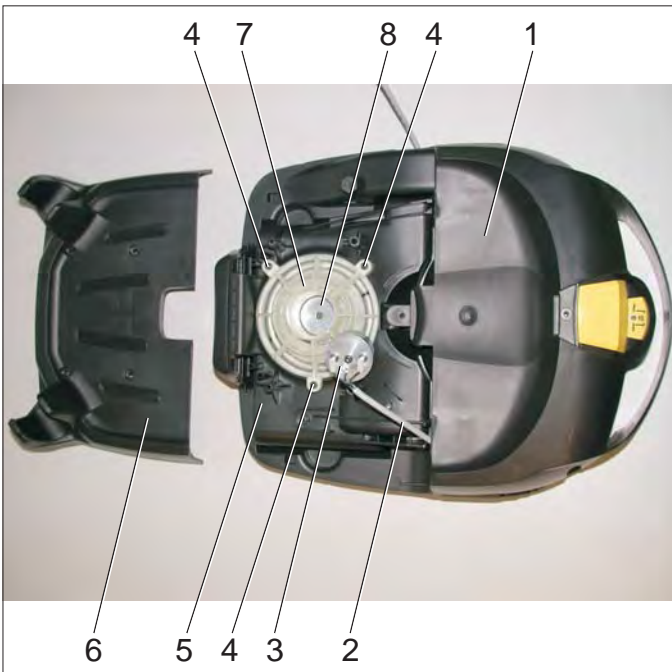
- 1 Fastening screws for hood
 - 2 Carrying handle
 - 3 Fastening screws for the cover of the filter lid
 - 4 hood
 - 5 Cover of the filter lid
- ➔ Unscrew the fastening screws for the hood.
 ➔ Remove the carrying handle.
 ➔ Remove the hood.
 ➔ Unscrew the fastening screws for the cover of the filter lid.
 ➔ Remove the cover of the filter lid

5.3 Filter dedusting

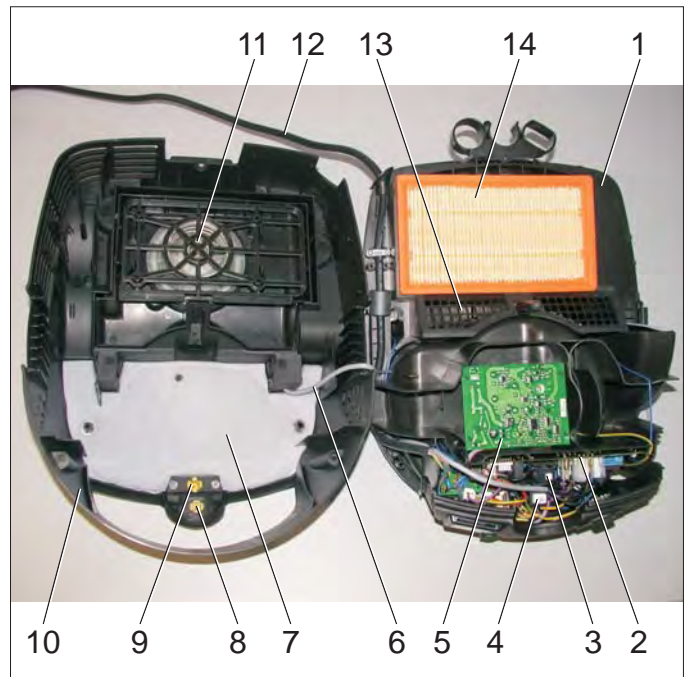


- 1 Electric solenoid
- 2 Solenoid plate
- 3 Spring, hard
- 4 O ring
- 5 Support
- 6 Filter cover
- 7 Spring, soft
- 8 Valve disks
- 9 Magnet-holder

5.4 Replace connecting cable for electrodes



- 1 hood
- 2 Connecting cable for electric solenoid
- 3 Electric solenoid
- 4 Fastening screw for solenoid holder
- 5 Filter cover
- 6 Cover of the filter lid
- 7 Magnet-holder
- 8 Solenoid plate
- ➔ Disconnect connecting cable for electric solenoid.



- 1 Filter casing
- 2 Control chip
- 3 Main switch
- 4 Switch for filter shake off system
- 5 Turbine circuit board
- 6 Connecting cable for electric solenoid
- 7 Insulating mat
- 8 Button, switch for filter shake off system
- 9 Button, main switch
- 10 hood
- 11 Filter dedusting
- 12 Power cord
- 13 Air input
- 14 Flat fold filter

➔ Disconnect the connecting cable for the electric solenoid from the circuit board.

➔ Pull out the connecting cable.

➔ Replace the connecting cable.

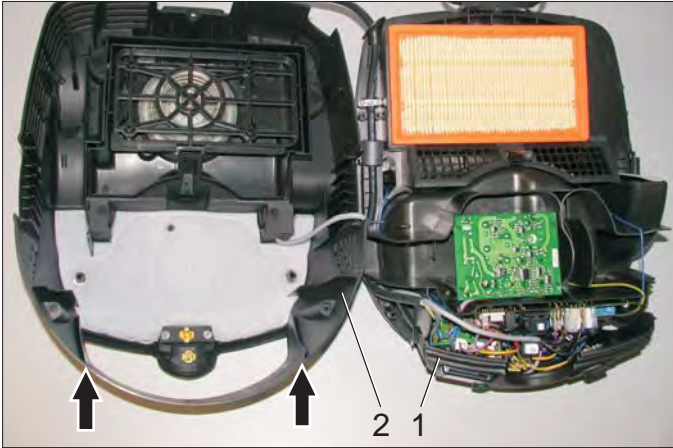
Note: In order to avoid excessive pull on the connecting cable, the installation of the connecting cable must take place with the filter lid open.



- 1 Connecting cable for electric solenoid

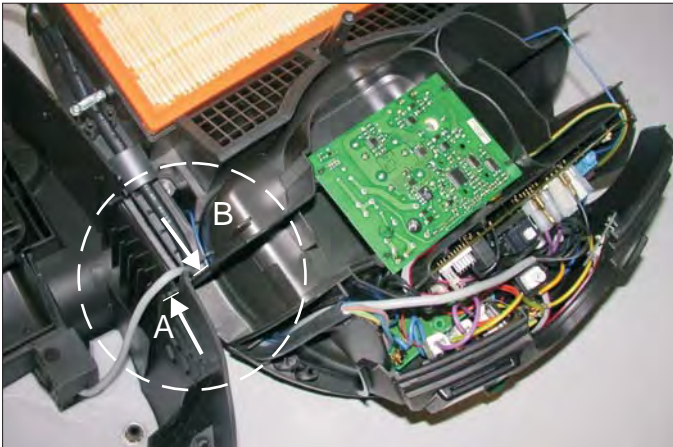
➔ Insert a new connecting cable and connect it to the circuit board and the electric solenoid. Route the cables as shown in drawing (dotted line box).

5.5 Install the suction head hood



- 1 Instrument panel
- 2 hood

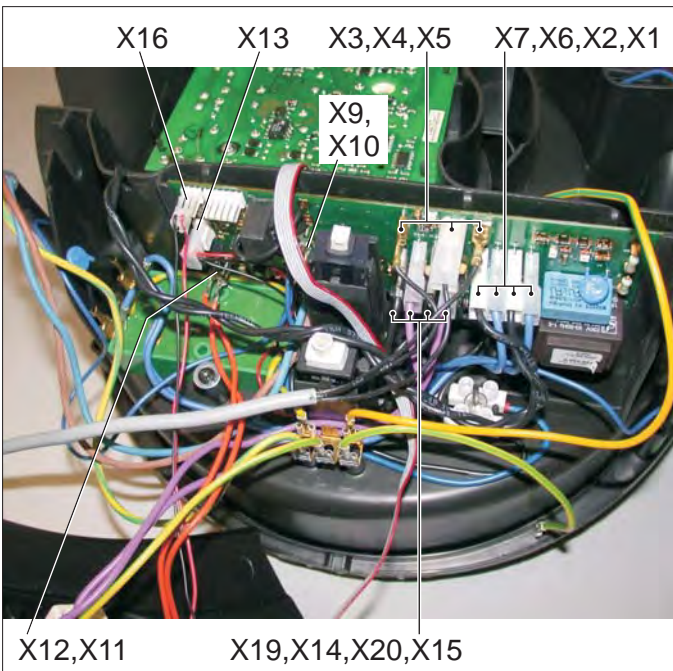
Note: During the installation of the hood, make sure that the guides of the hood (see arrows) and the instrument panels engage each other.



Note: Surface A of the hood and surface B of the turbine housing must touch each other once installed.

➔ Install the hood.

5.6 Replace the circuit board

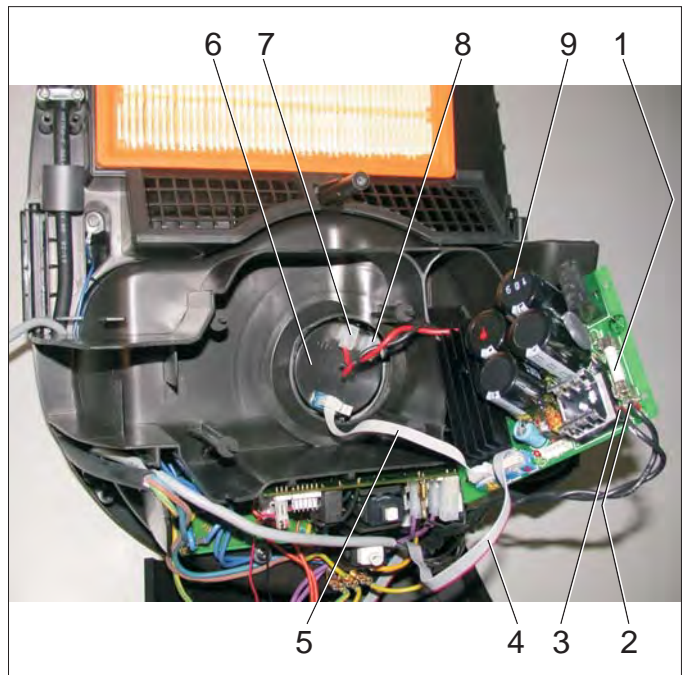


X7,X2	Turbine circuit board
X6,X1	Anti-interference filter
X3,X4,X5	Filter dedusting
X13	Switch for filter shake off system
X16	Micro switch
X9,X10	Electrodes
X14,X15	Socket
X19,X20	Main switch
X12,X11	Indicator lamp

- ➔ Pull the circuit board out toward the top.
- ➔ Disconnect all connecting cables from the circuit board.
- ➔ Replace the circuit board.
- ➔ Connect the new circuit board as per the circuit diagram.

5.7 Replace turbine circuit board

➔ Unscrew the fastening screws for the turbine circuit board.

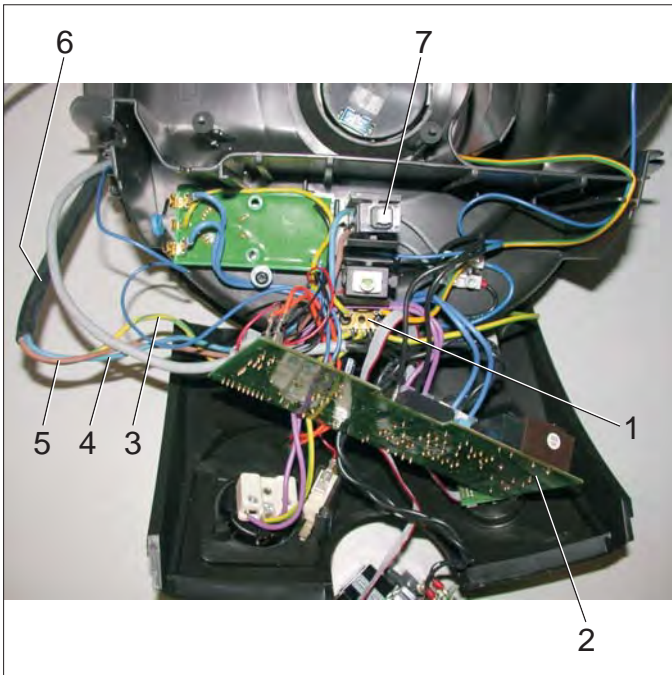


- 1 Fuse
 - 2 Connecting cable to the control circuit board (X61)
 - 3 Connecting cable to the control circuit board (X62)
 - 4 Flat cable to the control dial (X72)
 - 5 Flat cable to the suction turbine
 - 6 Suction turbine
 - 7 Connection to suction turbine, red (X51)
 - 8 Connection to suction turbine, black (X52)
 - 9 Turbine circuit board
- ➔ Disconnect all connecting cables from the turbine circuit board.
- ➔ Replace turbine circuit board.
- ➔ Connect the new turbine circuit board as per the circuit diagram.

5.8 Replace the fuse on the turbine circuit board

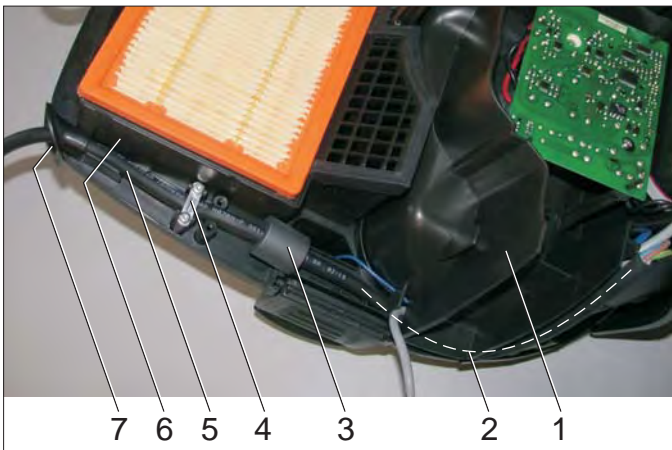
➔ Replace the fuse (10 A) if necessary.

5.9 Replacing the mains cable



- 1 Terminal strip X2
- 2 Control chip
- 3 Ground cable (protective conductor)
- 4 Neutral conductor
- 5 Phase
- 6 Power cord
- 7 Main switch

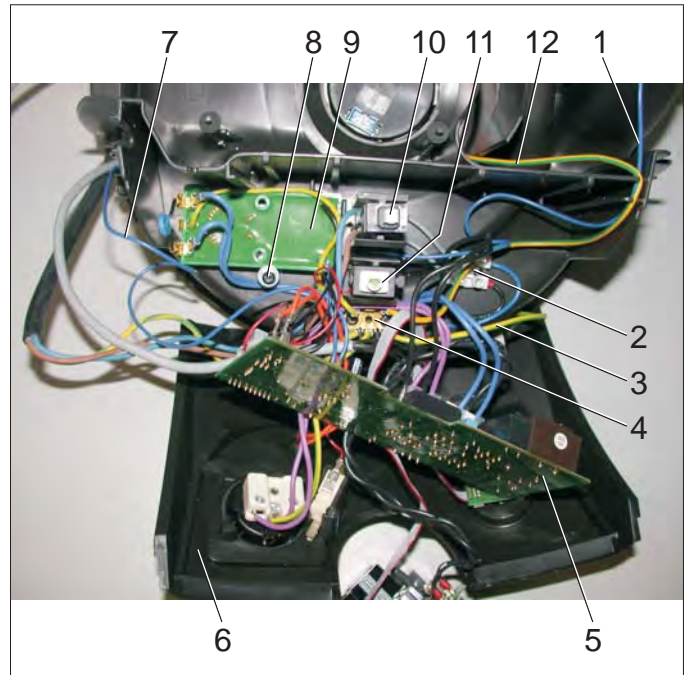
- ➔ Disconnect the ground cable (protective conductor) on the terminal strip X2.
- ➔ Disconnect the phase and the neutral connector on the main switch.



- 1 Turbine casing
- 2 Cable guide
- 3 Ferrit ring (anti-interference ring)
- 4 Clamp for mains cable
- 5 Power cord
- 6 Filter casing
- 7 Mains cable grommet

- ➔ Remove the clamp for mains cable.
- ➔ Remove the mains cable from the cable guide.
- ➔ Remove the ferrit ring (anti-interference ring).
- ➔ Thread the mains cable through the grommet.
- ➔ Install the new mains cable in reverse sequence.

5.10 Replace the interference filter



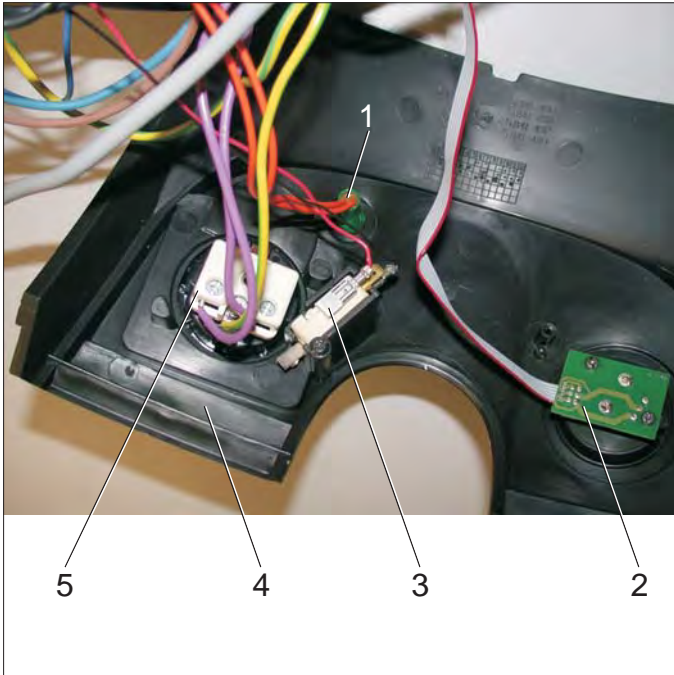
- 1 Electrode cable, left
- 2 Terminal strip X3
- 3 Ground cable to filter casing
- 4 Terminal strip X2
- 5 Control chip
- 6 Instrument panel
- 7 Electrode cable, right
- 8 Fastening screw for interference filter
- 9 Anti-interference filter
- 10 Main switch
- 11 Switch for filter shake off system
- 12 Ground cable of the suction turbine

- ➔ Remove the fastening screw for the interference filter.
- ➔ Remove the interference filter and disconnect it.
- ➔ Replace the interference filter.
- ➔ Connect the new interference filter as per the circuit diagram.

5.11 Replace the main switch and the switch for the filter shake off system

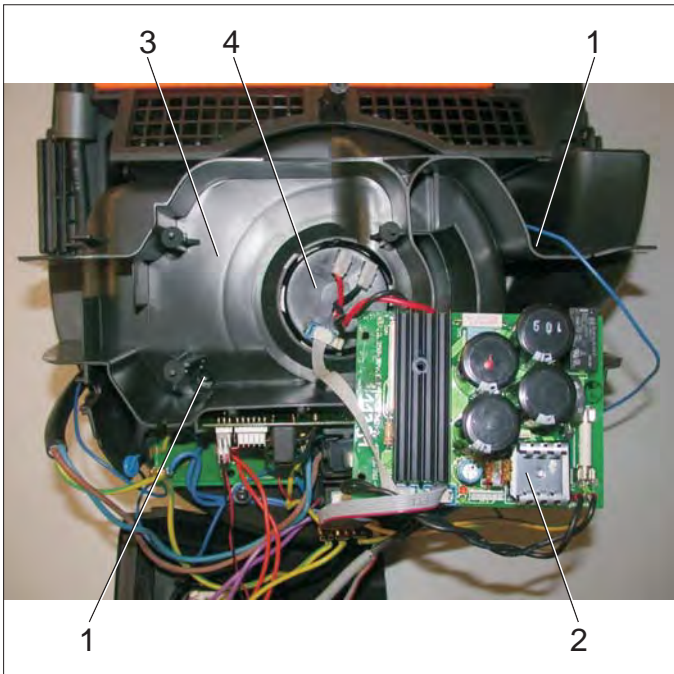
- ➔ Remove the main switch or the switch for the filter shake off system and disconnect it.
- ➔ Replace the main switch or the switch for the filter shake off system.
- ➔ Connect the new main switch or the new switch for the filter shake off system as per the circuit diagram.

5.12 Replace the control lamp, the socket, the micro switch and the control dial.

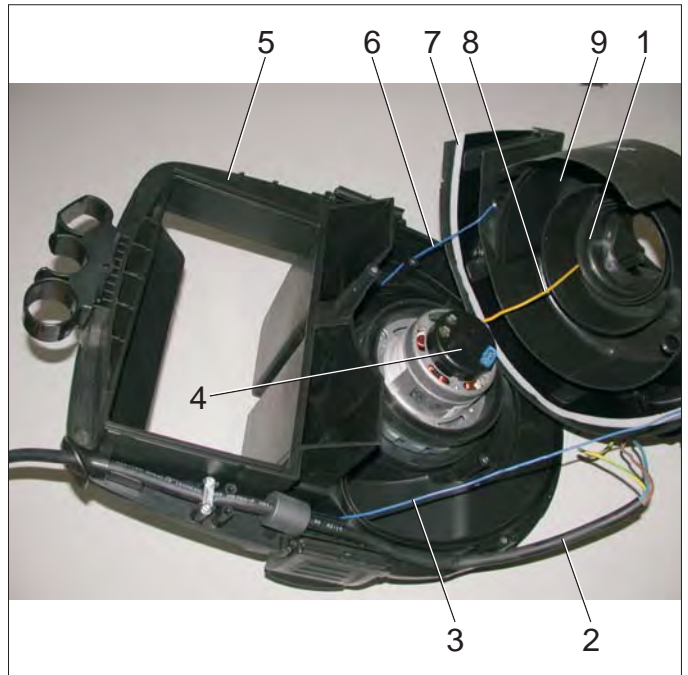


- 1 Indicator lamp
 - 2 Rotary switch for suction output (min-max)
 - 3 Micro switch
 - 4 Instrument panel
 - 5 Socket
- ➔ Replace the control lamp, the socket, the micro switch and the control dial if necessary

5.13 Replacing the suction turbine



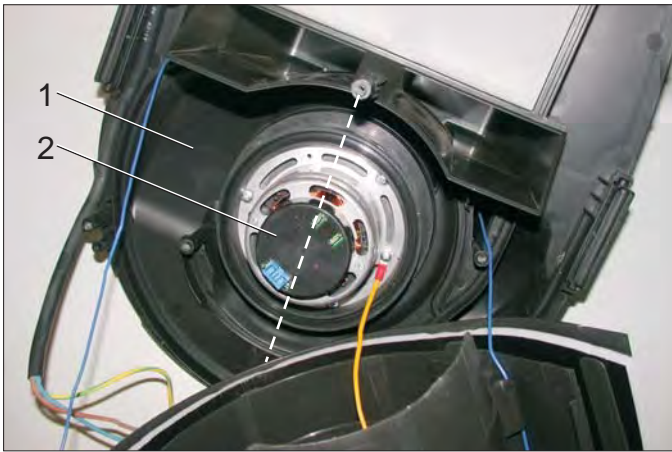
- 1 Fastening screws for turbine housing
 - 2 Turbine circuit board
 - 3 Turbine casing
 - 4 Suction turbine
- ➔ Pull the connection plug off the turbine.
➔ Unscrew the fastening screws for the turbine casing.



- 1 Upper turbine seal
 - 2 Power cord
 - 3 Electrode cable, right
 - 4 Suction turbine
 - 5 Filter casing
 - 6 Electrode cable, left
 - 7 Insulating mat
 - 8 Ground cable of the suction turbine
 - 9 Turbine casing
- ➔ Remove the turbine casing.



- 1 Medium turbine seal
 - 2 Adapter plate
 - 3 Filter casing
 - 4 Ground cable of the suction turbine
 - 5 Suction turbine
- ➔ Unscrew the ground cable of the suction turbine.
➔ Remove the medium turbine seal.
➔ Remove the suction turbine.
➔ Place the medium turbine seal onto the new suction turbine.
- Note:** Make sure that the adapter plate is placed properly.



1 Filter casing

2 Suction turbine

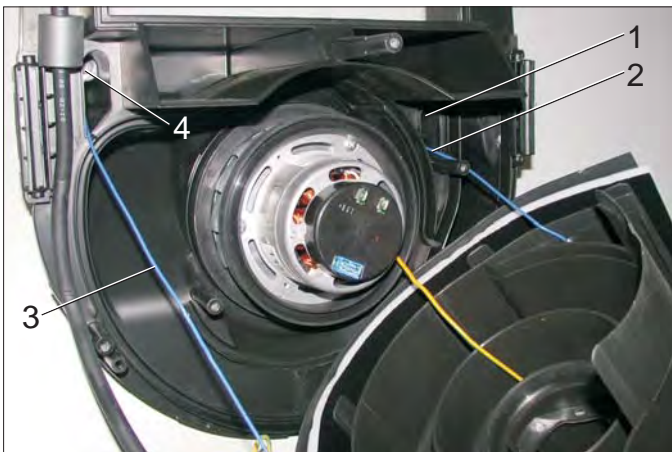
→ Place the new suction turbine on the adapter plate and align it as per the drawing (dotted line).

→ Screw on the ground cable.

→ Install the turbine casing in the reverse sequence.

→ Connect the connection plug of the turbine.

5.14 Replace the electrodes



1 Left electrode

2 Electrode cable, left

3 Electrode cable, right

4 Right electrode

→ Disconnect the connecting cables from the circuit board and the electrodes.

→ Replace damaged connecting cables.

→ Replace the electrodes.

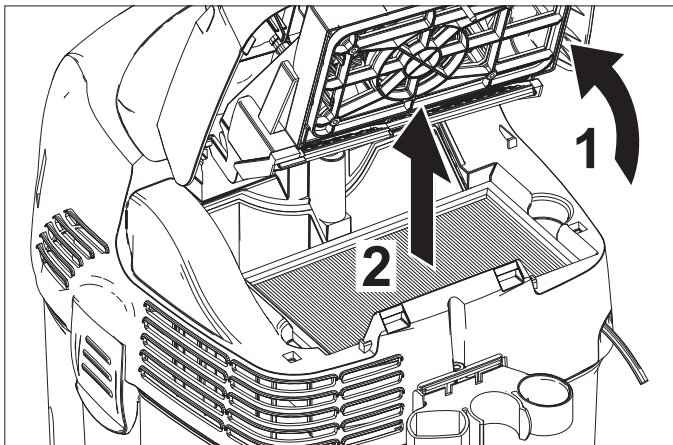
→ Install new connecting cables in reverse sequence.

6 Maintenance and care

⚠ Danger

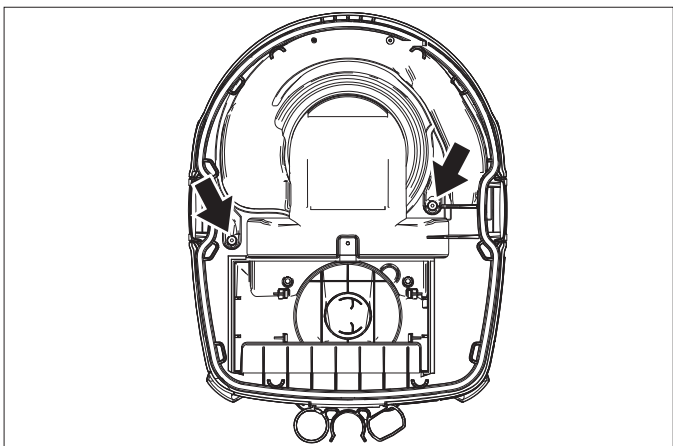
First pull out the plug from the mains before carrying out any tasks on the machine.

6.1 Exchanging the flat pleated filter



- Open filter door.
- Replace the flat pleated filter.
- Close the filter door, it must lock into place.

6.2 Cleaning the electrodes



- Release and remove the suction head.
- Clean the electrodes.
- Insert and lock the suction head.

7 Troubleshooting

⚠ Danger

First pull out the plug from the mains before carrying out any tasks on the machine.

7.1 Suction turbine does not run

- Check cables, plugs, fuse, socket and electrodes.
- Turn on the appliance.

7.2 Suction turbine turns off

- Empty the container.

7.3 Suction turbine does not start again after the container has been emptied

- Turn off the appliance and wait for 5 seconds, turn it on again after 5 seconds.
- Clean the electrodes as well as the space between the electrodes.

7.4 Suction capacity decreases

- Remove blockages in the suction nozzle, suction tube, suction hose, or flat pleated filter.
- Exchange the paper filter bag.
- Ensure the filter cover properly locks into place.
- Clean or replace the membrane filter (special accessory).
- Replace the flat pleated filter.

7.5 Dust comes out while vacuuming

- Check for proper installation of the flat pleated filter.
- Replace the flat pleated filter.

7.6 Automatic shut-off (wet vacuum cleaning) does not react

- Clean the electrodes as well as the space between the electrodes.
- Continuously check the filling level in case of non-conductive liquid.

7.7 Automatic filter cleaning is not working

- Suction hose is not connected.

7.8 Automatic filter cleaning cannot be switched off

- Inform Customer Service

7.9 Automatic filter cleaning cannot be switched on

- Inform Customer Service

8 Technical specifications

Appliance type	Appliance no.:	Circuit diagram	Operating instructions	Spare parts list
NT 45/1 Tact Te Ec *EU, 220-240 V, 1~ 50/60 Hz	1.145-816.0	0.089-165.0	5.963-394.0	5.971-036.0

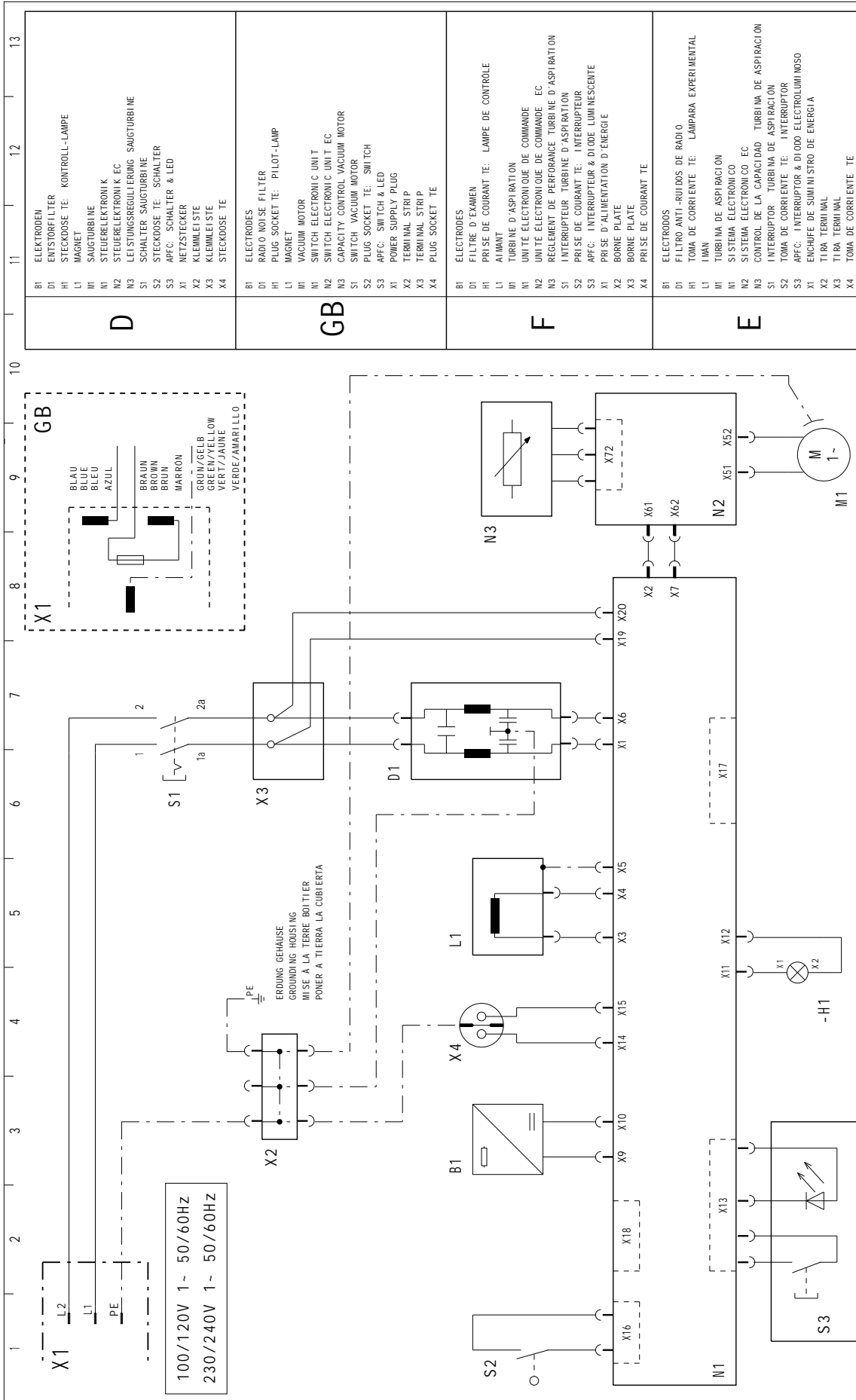
The status of the attached circuit diagram represents the creation date of the service manual. This circuit diagram is not updated. When working on the device, please always use the current circuit diagram in Kärcher-Inside.

8.1 Special tools

There are no special tools necessary.

8.2 Tightening torques

No data.



D	B1 ELEKTRODEN D1 EMISTORFILTNER H1 STECKDOSE TE: KONTROLL-LAMPE L1 MAGNET M1 SAUGTURBINE N1 STEUERELEKTRONIK N2 STEUERELEKTRONIK EC N3 LEISTUNGSREGULIERUNG SAUGTURBINE S1 SCHALTER SAUGTURBINE S2 STECKDOSE TE: SCHALTER S3 APFC: SCHALTER & LED X1 NEZSTECKER X2 KLEMMLEISTE X3 KLEMMLEISTE X4 STECKDOSE TE
GB	B1 ELECTRODES D1 RADIO NOISE FILTER H1 PLUG SOCKET TE: PILOT-LAMP L1 MAGNET M1 VACUUM MOTOR N1 SWITCH ELECTRONIC UNIT N2 SWITCH ELECTRONIC UNIT EC N3 CAPACITY CONTROL VACUUM MOTOR S1 SWITCH VACUUM MOTOR S2 PLUG SOCKET TE: SWITCH S3 APFC: SWITCH & LED X1 POWER SUPPLY PLUG X2 TERMINAL STRIP X3 TERMINAL STRIP X4 PLUG SOCKET TE
F	B1 ELECTRODES D1 FILTRE D'EXAMEN H1 PRISE DE COURANT TE: LAMPE DE CONTROLE L1 AIMANT M1 TURBINE D'ASPIRATION N1 UNITE ELECTRONIQUE DE COMMANDE N2 UNITE ELECTRONIQUE DE COMMANDE EC N3 REGLEMENT DE PERFORMANCE TURBINE D'ASPIRATION S1 INTERRUPTEUR TURBINE D'ASPIRATION S2 PRISE DE COURANT TE: INTERRUPTEUR S3 APFC: INTERRUPTEUR & DIODE LUMINESCENTE X1 PRISE D'ALIMENTATION D'ENERGIE X2 BORNE PLATE X3 BORNE PLATE X4 PRISE DE COURANT TE
E	B1 ELECTRODOS D1 FILTRO ANTI-RUIDOS DE RADIO H1 TOMA DE CORRIENTE TE: LAMPARA EXPERIMENTAL L1 IMAN M1 TURBINA DE ASPIRACION N1 SISTEMA ELECTRONICO N2 CONTROL DE LA CAPACIDAD TURBINA DE ASPIRACION N3 INTERRUPTOR TURBINA DE ASPIRACION S1 TOMA DE CORRIENTE TE: INTERRUPTOR S2 APFC: INTERRUPTOR & DIODO ELECTROLUMINOSO X1 ENCHUFE DE SUMINISTRO DE ENERGIA X2 TIRA TERMINAL X3 TIRA TERMINAL X4 TOMA DE CORRIENTE TE

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