

# SERVICE MANUAL

## FOR MONO PHASE CENTRAL POWER UNITS

### PERFETTO INOX **TXA**

**MODELS:** TX1A - TX2A - TX3A - TX4A

### PERFETTO **TPA**

**MODELS:** TP1A - TP2A - TP3A - TP4A

### PERFETTO **TP**

**MODELS:** TP1 - TP2 - TP3 - TP4

### CLASSIC **TC**

**MODELS:** TC1 - TC2 - TC3 - TC4



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## GENERAL WARNINGS

This service manual is reserved to Aertecnica authorised Technical Service Centres (CAT).

This service manual is relative to the following single-phase central power units for the residential sector:

SERIES: PERFETTO INOX TXA  
MOD: TX1A - TX2A - TX3A - TX4A

SERIES: PERFETTO TPA  
MOD: TP1A - TP2A - TP3A - TP4A

SERIES: PERFETTO TP  
MOD: TP1 - TP2 - TP3 - TP4

SERIES: CLASSIC TC  
MOD: TC1 - TC2 - TC3 - TC4

### NOTE

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## CERTIFICATIONS

Aertecnica S.p.A is a company certified with:



Quality system  
UNI EN ISO 9001  
Environmental  
management system  
UNI EN ISO 14001



Product certification for the single-phase power unit range for the residential market sector, series:  
PERFETTO INOX TXA  
PERFETTO TPA  
PERFETTO TP  
CLASSIC TC



## MANUFACTURER

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### Technical service

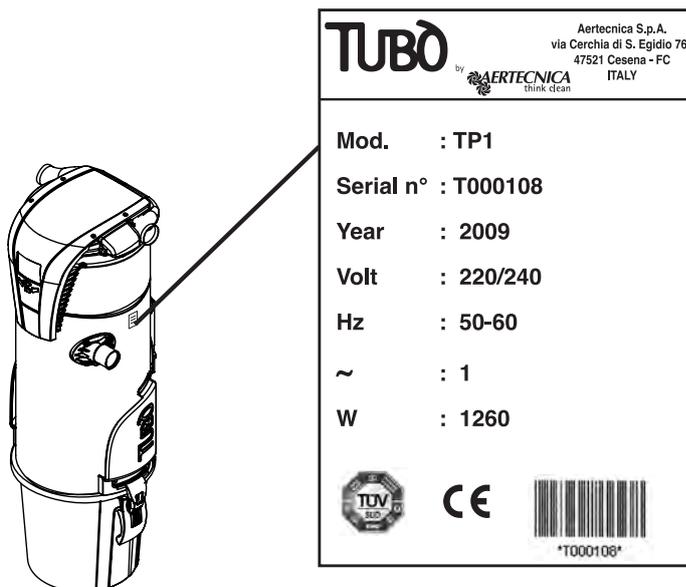
For all communications concerning the central power unit, the user should always provide the following data:  
central power unit model  
serial number  
year of manufacturing  
date of purchase and a detailed description of the discovered problems.

When replacing the central power unit's spare parts it is recommended to use original spare parts.

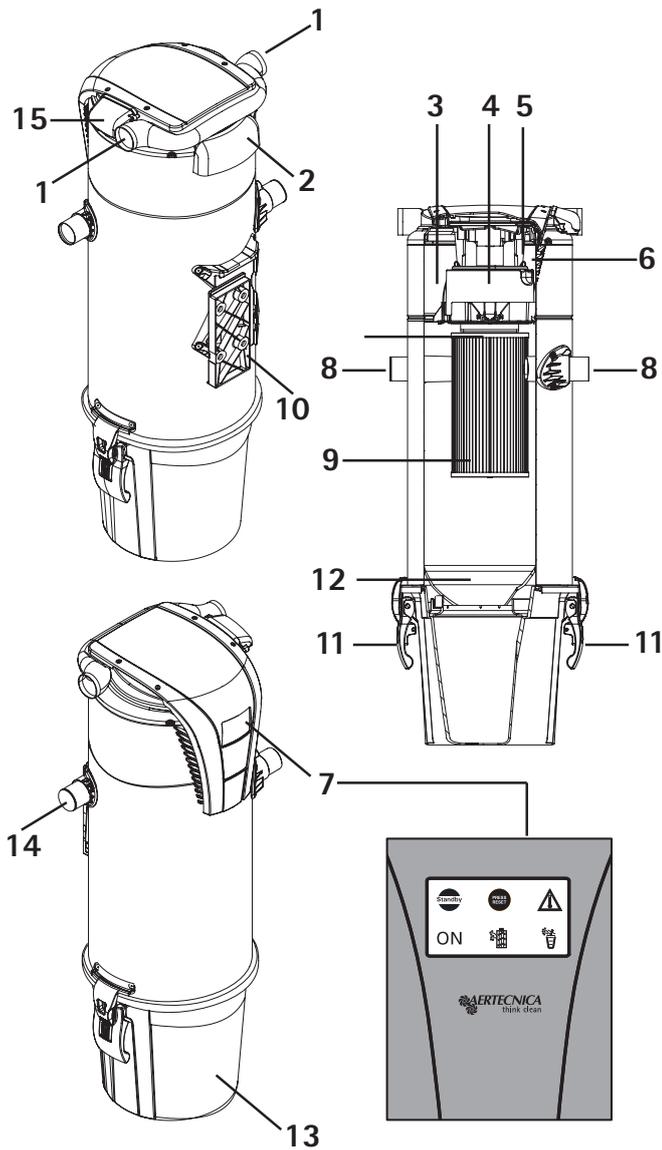
Aertecnica declines all liability concerning decreased performance or damage to the central power unit due to the use of non-original spare parts.

## IDENTIFICATION PLATE

For these models, the identification plate is located on the body of the central power unit as shown in the figure.

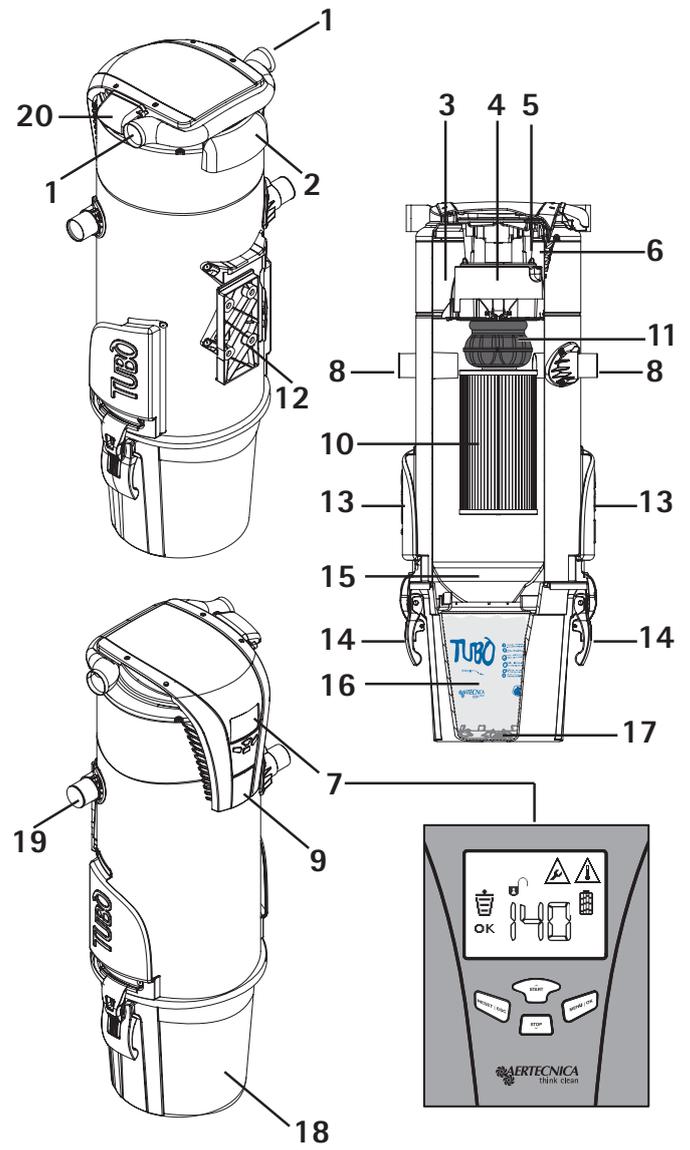


# PART DESCRIPTION - SINGLE-PHASE POWER UNIT



## CLASSIC TC LINE

- 1 - Dual right/left air exhaust
- 2 - Motor air intake (mod. CLASSIC TC3, TC4)
- 3 - Sound-proofed motor chamber
- 4 - Electric motor
- 5 - Temperature sensor
- 6 - Power electronic board
- 7 - AVT panel
- 8 - Dual right/left dust inlet
- 9 - PRECISION filter cartridge
- 10 - QUICK FIX bracket
- 11 - Ergonomic handles
- 12 - Cone conveyor
- 13 - Dust container
- 14 - Dust inlet closing cap
- 15 - 12V socket line and power supply line casing



## PERFETTO INOX TXA, TPA AND TP LINE

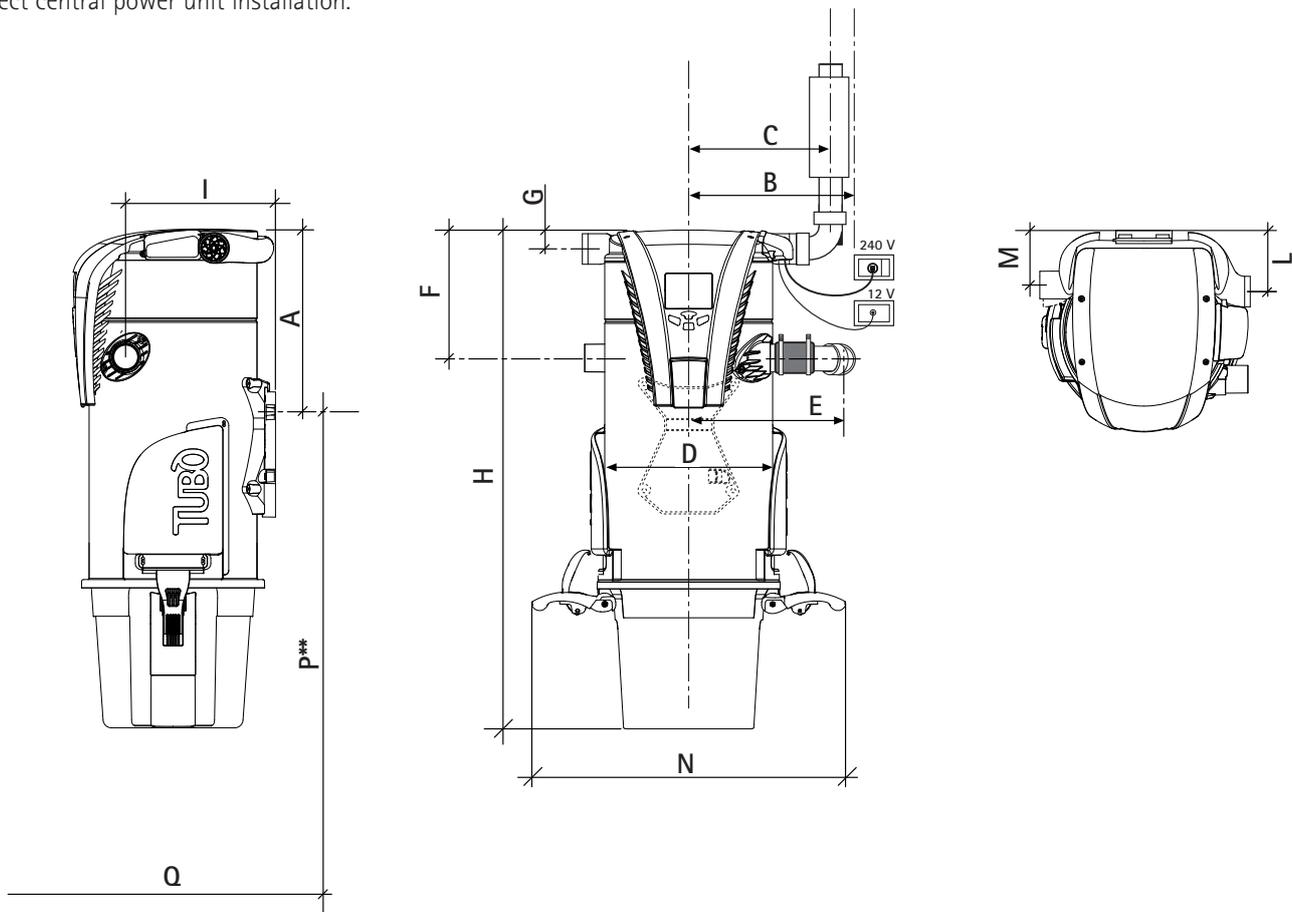
- 1 - Dual right/left air exhaust
- 2 - Motor air intake (excluding mod. PERFETTO TX1A, TP1A and TP1)
- 3 - Sound-proofed motor chamber
- 4 - Electric motor
- 5 - Temperature sensor
- 6 - Electronic card EVOLUTION 1.0
- 7 - VI display and built-in keyboard
- 8 - Dual right/left dust inlet
- 9 - Built-in vacuum socket
- 10 - PRECISION filter cartridge
- 11 - Self-Cleaning filter APF system (mod. PERFETTO TXA and TPA)
- 12 - QUICK FIX bracket
- 13 - Side multifunction pockets (excluding mod. PERFETTO TX1A, TP1A and TP1)
- 14 - Ergonomic handles
- 15 - Cone conveyor
- 16 - CLEAN BAG dust bag
- 17 - CLEAN BAG blocking system
- 18 - Dust container
- 19 - Dust inlet closing cap
- 20 - 12V socket line and power supply line casing

# TECHNICAL FEATURES

Line		PERFETTO INOX TXA				PERFETTO TPA TP				CLASSIC TC			
		TX1A	TX2A	TX3A	TX4A	TP1A TP1	TP2A TP2	TP3A TP3	TP4A TP4	TC1	TC2	TC3	TC4
Model													
Power supply	Volt (Vac)	220/240	220/240	220/240	220/240	220/240	220/240	220/240	220/240	220/240	220/240	220/240	220/240
Motor power	Watts (W)	1.260	1.600	1.350	1.590	1.260	1.600	1.350	1.590	1.260	1.600	1.350	1.590
Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Electric protection	IP	IP55 <sup>1</sup>	IP55 <sup>1</sup>	IP45 <sup>2</sup>	IP45 <sup>2</sup>	IP55 <sup>1</sup>	IP55 <sup>1</sup>	IP45 <sup>2</sup>	IP45 <sup>2</sup>	IP55 <sup>1</sup>	IP55 <sup>1</sup>	IP45 <sup>2</sup>	IP45 <sup>2</sup>
Motor rpm	rpm	43.507	46.480	26.871	29.892	43.507	46.480	26.871	29.892	43.507	46.480	26.871	29.892
Turbine stages	n°	1	1	3	3	1	1	3	3	1	1	3	3
Socket power supply	Volt (Vcc)	12	12	12	12	12	12	12	12	12	12	12	12
Vacuum power	Air Watts	504	653	423	526	504	653	423	526	504	653	423	526
Max. air flow rate	m <sup>3</sup> /h	207	195	161	174	207	195	161	174	207	195	161	174
Max. vacuum	mbar	270	313	333	374	270	313	333	374	270	313	333	374
Filter cartridge surface	cm <sup>2</sup>	4.000	8.200	12.300	12.300	4.000	8.200	12.300	12.300	4.000	8.200	12.300	12.300
Filter cartridge material		POLYESTER				POLYESTER				POLYESTER			
Dust container capacity	litres	13,5	13,5	22	22	13,5	13,5	22	22	13,5	13,5	22	22
Height	cm	60	90	115	115	60	90	115	115	60	90	115	115
Diameter	cm	30	30	34	34	30	30	34	34	30	30	34	34
Weight	kg	10,8	13,8	17,3	17,3	10,8 9,8	13,8 12,8	17,3 16,3	17,3 16,3	9,5	12,2	15,3	15,3
Dynamic Control Display compatibility (CMT800)		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wireless system compatibility (CM187)		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Soft Start starting		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Right and left dust inlet		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Right and left air exhaust		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
AVI display		YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
AVT panel		NO	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
ModBus communication system		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
QUICK FIX bracket		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
APF system		YES	YES	YES	YES	YES NO	YES NO	YES NO	YES NO	NO	NO	NO	NO
Built-in vacuum socket		YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
CLEAN BAG		YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
Multifunction Pockets		NO	YES	YES	YES	NO	YES	YES	YES	NO	NO	NO	NO
Silencer as standard equipment		NO	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES	YES
1 IP55 exhaust conveyor with exhaust tubing IP43 direct exhaust from the central power unit, without exhaust piping						2 IP45 exhaust conveyor with exhaust tubing IP43 direct exhaust from the central power unit, without exhaust piping							

# CENTRAL POWER UNIT INSTALLATION ALLOWANCES

The following table specifies the main reference allowances for correct central power unit installation.



	PERFETTO TXA				PERFETTO TP - PERFETTO TPA				CLASSIC TC			
	TX1A	TX2A	TX3A	TX4A	TP1/TP1A	TP2/TP2A	TP3/TP3A	TP4/TP4A	TC1	TC2	TC3	TC4
A	138	328	418	418	138	328	418	418	138	328	418	418
B	350	350	350	350	350	350	350	350	350	350	350	350
C	257	257	257	257	257	257	257	257	257	257	257	257
D	300	300	340	340	300	300	340	340	300	300	340	340
E	286	286	304	304	286	286	304	304	286	286	304	304
F	230	230	340	340	230	230	340	340	230	230	340	340
G	34	34	34	34	34	34	34	34	34	34	34	34
H	600	900	1115	1115	600	900	1115	1115	600	900	1115	1115
I	273	273	308	308	273	273	308	308	273	273	308	308
L	115	15	137	137	115	115	137	137	115	115	137	137
M	103	03	112	112	103	103	112	112	103	103	112	112
N	560	560	600	600	560	560	600	600	560	560	600	600
P**	1500	1400	1400	1400	1500	1400	1400	1400	1500	1400	1400	1400

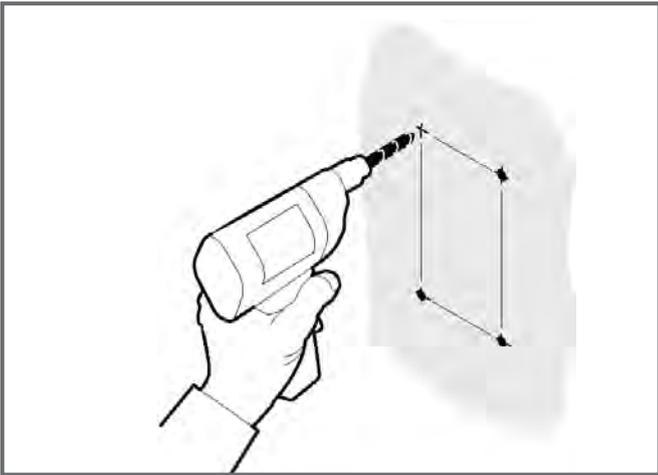
P\*\* recommended allowance

Q floor level

The indicates measurements are in mm.

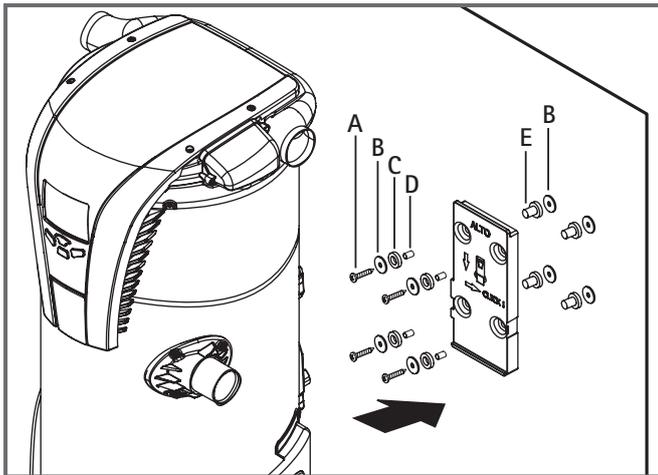
# BRACKET FASTENING

1 - Make the holes in the wall

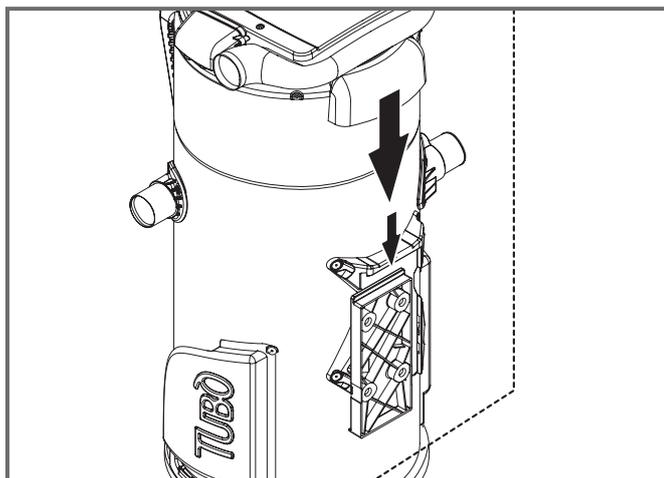


2 - Fasten the bracket to the wall following the described assembly order:

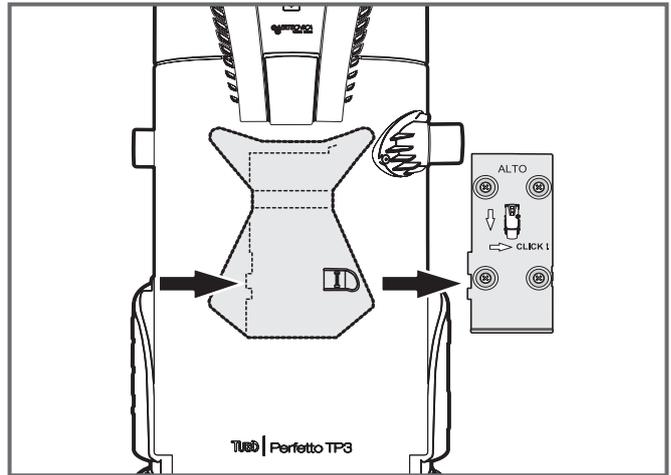
- A - Screw 6x70
- B - Flat washer 6x24
- C - Rubber washer
- D - End stop
- E - Rubber antivibration pad



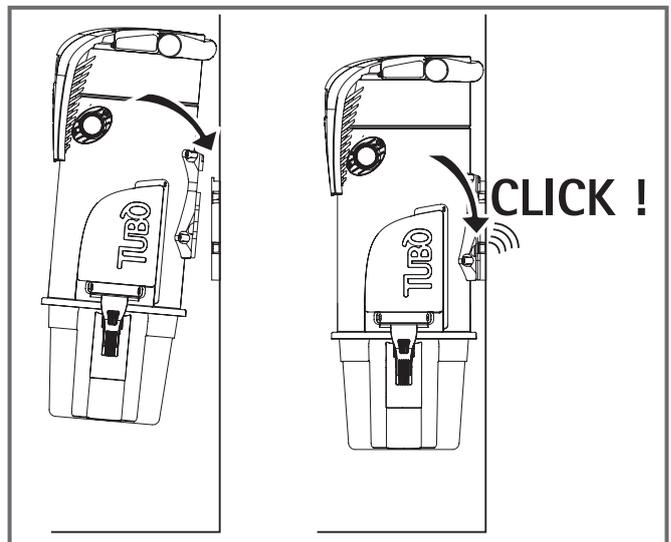
3- Stand with the central power unit in front of the bracket and use a downward movement to hook the central power unit support to the bracket slide.



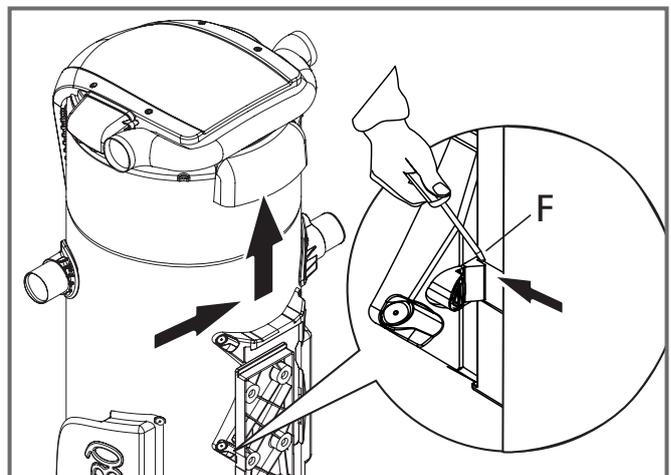
4- With a simple left to right movement, slide the central power unit support to the end stop.



5 -The lock hook must release with a CLICK; use a screwdriver for leverage if necessary (see figure 6, letter F).



# UNHOOKING POWER UNIT

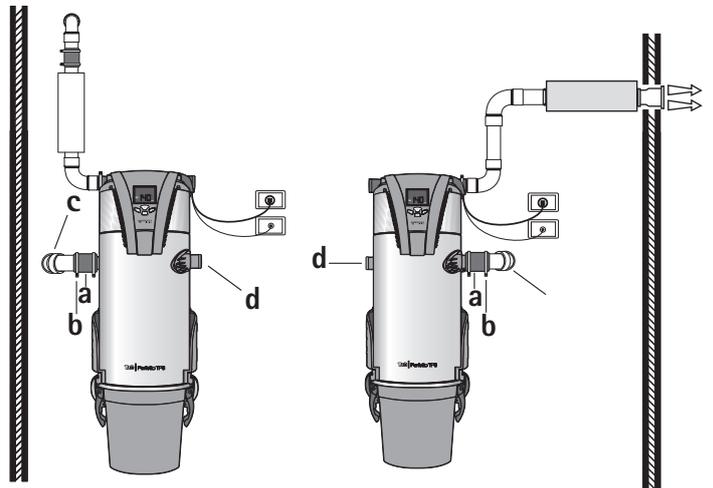


6 - To unhook the central power unit from the support, press the lock hook with the help of a screw driver (F). Slide the central power unit to the left and lift it.

## DUST INLET LINE CONNECTION

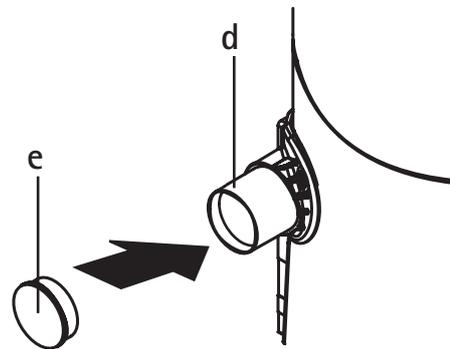
All of the central power units have a dual dust inlet to permit the connection of the socket line hose on both sides of the central power unit, making installation easier.

Select the most convenient central power unit dust inlet to connect the dust inlet line. Assemble the rubber sleeve (a) on the dust inlet using the two provided clamps (b) and connect it to the inlet hose (c).



### DUST INLET LINE CLOSING CAP

Check that the dust inlet not in use (d) is closed. Place the provided pressure cap (e).



## EXHAUST CONVEYOR LINE CONNECTION

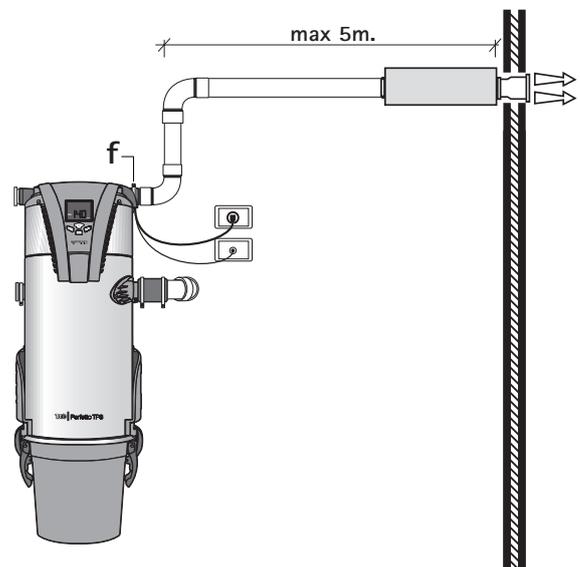
All of the central power units have a dual air exhaust outlet to permit the installation of the air exhaust line on both sides of the central power unit, making installation easier.

Select the most convenient air exhaust outlet to connect the central power unit. Connect the exhaust conveyor line hose with the provided clamp (f).

It is recommended to install an exhaust hose that is no longer than 5 metres.

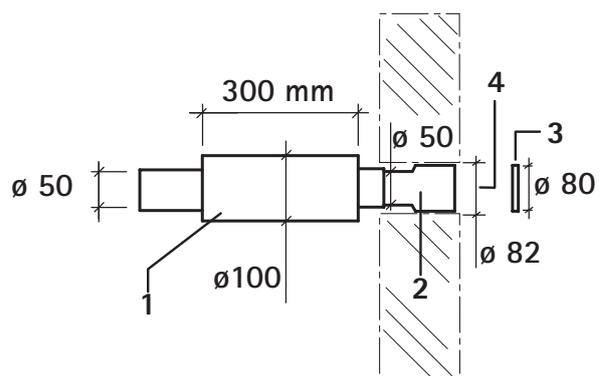
If the exhaust line is longer, use a hose with a diameter of  $\varnothing 63$  or larger and install a silencer of a suitable diameter.

Always position the silencer near the exhaust grille.



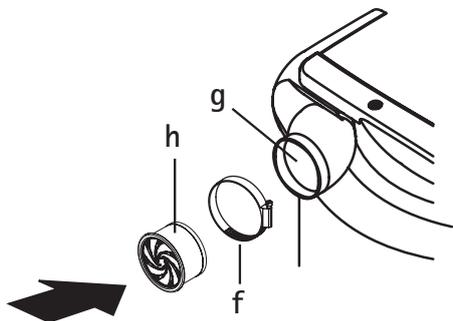
### AIR EXHAUST LINE COMPONENTS

- 1 - silencer  $\varnothing 100$
- 2 - conical increase  $\varnothing 50F - \varnothing 80F$
- 3 - exhaust grille  $\varnothing 80$
- 4 - outlet hole  $\varnothing 82$



### AIR EXHAUST LINE CLOSING CAP

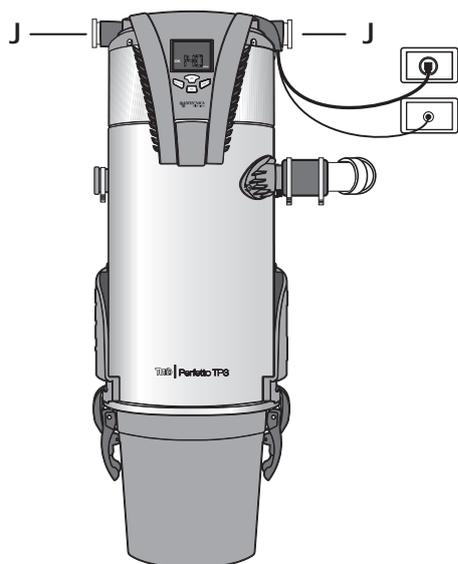
Si raccomanda di chiudere l'altra uscita aria non utilizzata (g).  
Inserire il tappo apposito (h) e stringere la fascetta in dotazione (f) per impedire la ricaduta delle polveri fini nel locale della centrale.



## CONNECTION OF THE EXHAUST LINE TO THE AMBIENT ATMOSPHERE

If the central power unit is installed outside (on a terrace, balcony or loggia) the air exhaust conveyor is not needed as it uses the air exhaust openings on the central power unit itself.

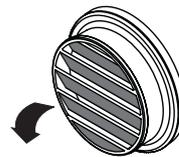
The 2 air grilles (J) provided with the unit must be installed on both air exhaust openings following the indicated direction.



## AIR GRILLES

Fit the 2 air grilles in both air exhaust openings following the direction indicated below.

THE INNER SIDE is the one with the grille; the grille blades must be rotated downward.



THE EXTERNAL SIDE is the one with a helicoidal section drawing.



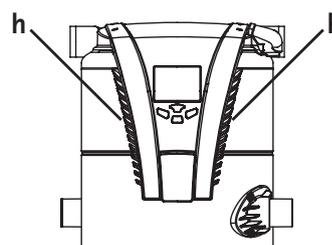
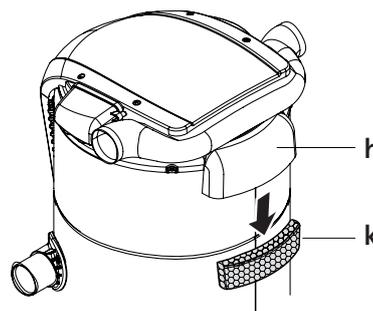
### NOTE

This solution is indicated only for central power units installed externally.

## ELECTRIC MOTOR AIR INTAKES

The PERFETTO TX3A and TX4A, TP3A and TP4A, TP3 and TP4, TC3 and TC4 power units have air intakes (h) that must not be blocked to guarantee electric motor cooling.

Remove the internal protective sponge and wash it once a year to ensure air passage.



# ELECTRICAL CONNECTION OF THE CENTRAL POWER UNIT

**DANGER OF ELECTROCUTION**  
 Make sure that the electric line is dimensioned to support the central power unit power and check that the mains network corresponds to the voltage specified on the identification plate.

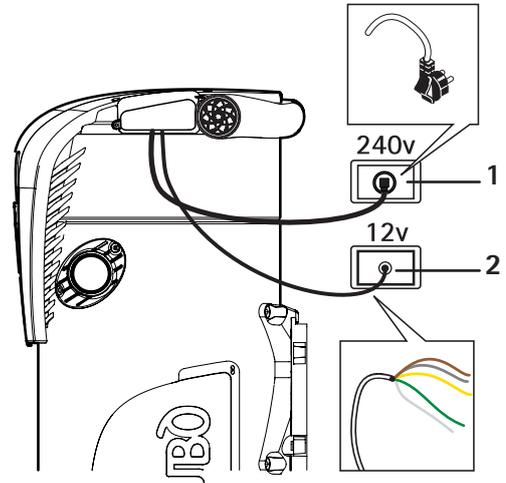
**DANGER OF ELECTROCUTION**  
 The central power unit electric power supply system must be installed by qualified personnel in compliance with current applicable regulations.  
 The manufacturer declines all liability for poor operation or damage to people and/or property due to connection to a non-compliant electric system

## CONNECTION OF THE CENTRAL POWER UNIT TO THE POWER SUPPLY LINE

The power supply cable with SCHUKO plug (1) for the central power unit is supplied as standard equipment with the central power unit.

## CONNECTION OF THE CENTRAL POWER UNIT TO THE SOCKET LINE

A socket cable connection is supplied with the socket activation line and remote data transmission (2) as standard equipment.

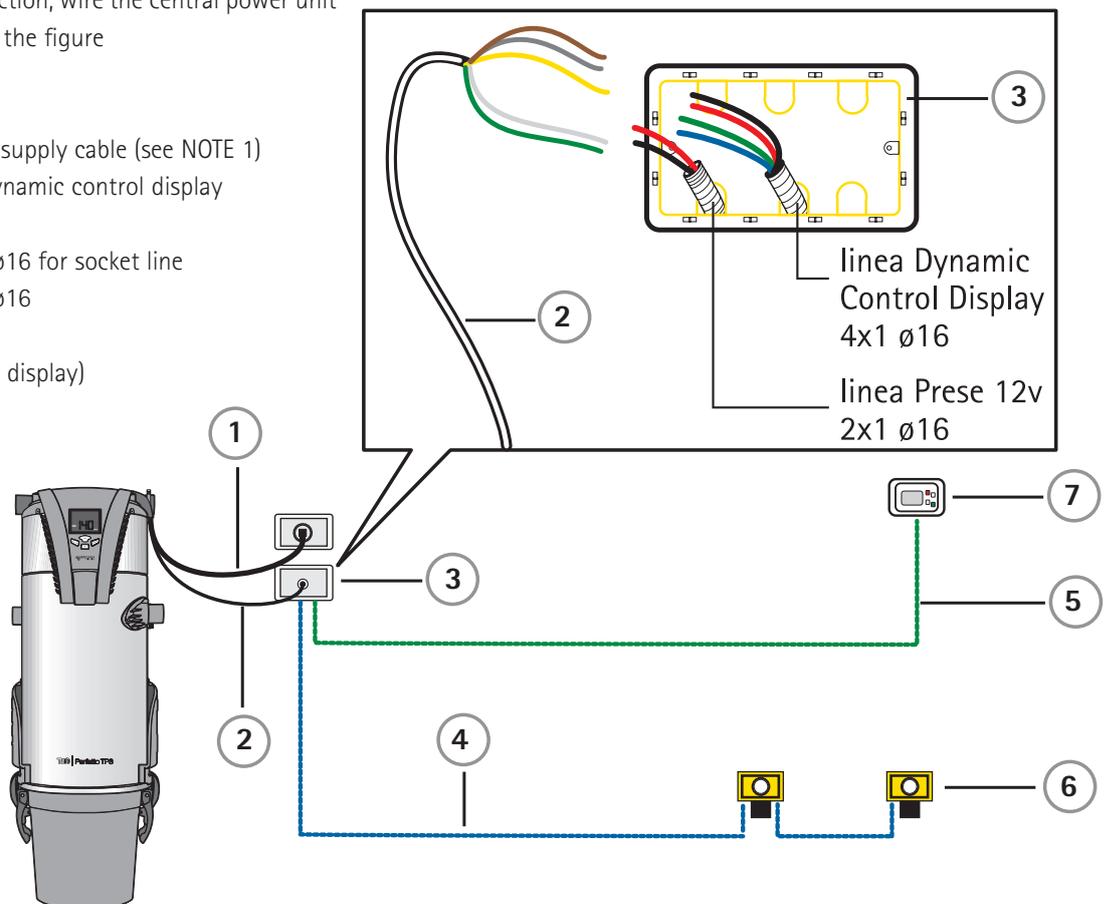


## ELECTRICAL CONNECTION DIAGRAM

To make the socket line connection, wire the central power unit connection cable as shown in the figure

### GENERAL COMPONENTS

- 1 - central power unit power supply cable (see NOTE 1)
- 2 - socket cable line 12v + Dynamic control display
- 3 - electric junction box
- 4 - pre-wired sheathing 2x1 ø16 for socket line
- 5 - pre-wired sheathing 4x1 ø16
- 6 - inlet frames
- 7 - CMT800 (Dynamic control display)



### NOTE 1 - EXTERNAL CENTRAL POWER UNIT

The central power unit can also be installed externally; in this case ensure that the junction box is equipped with suitable electrical protection.

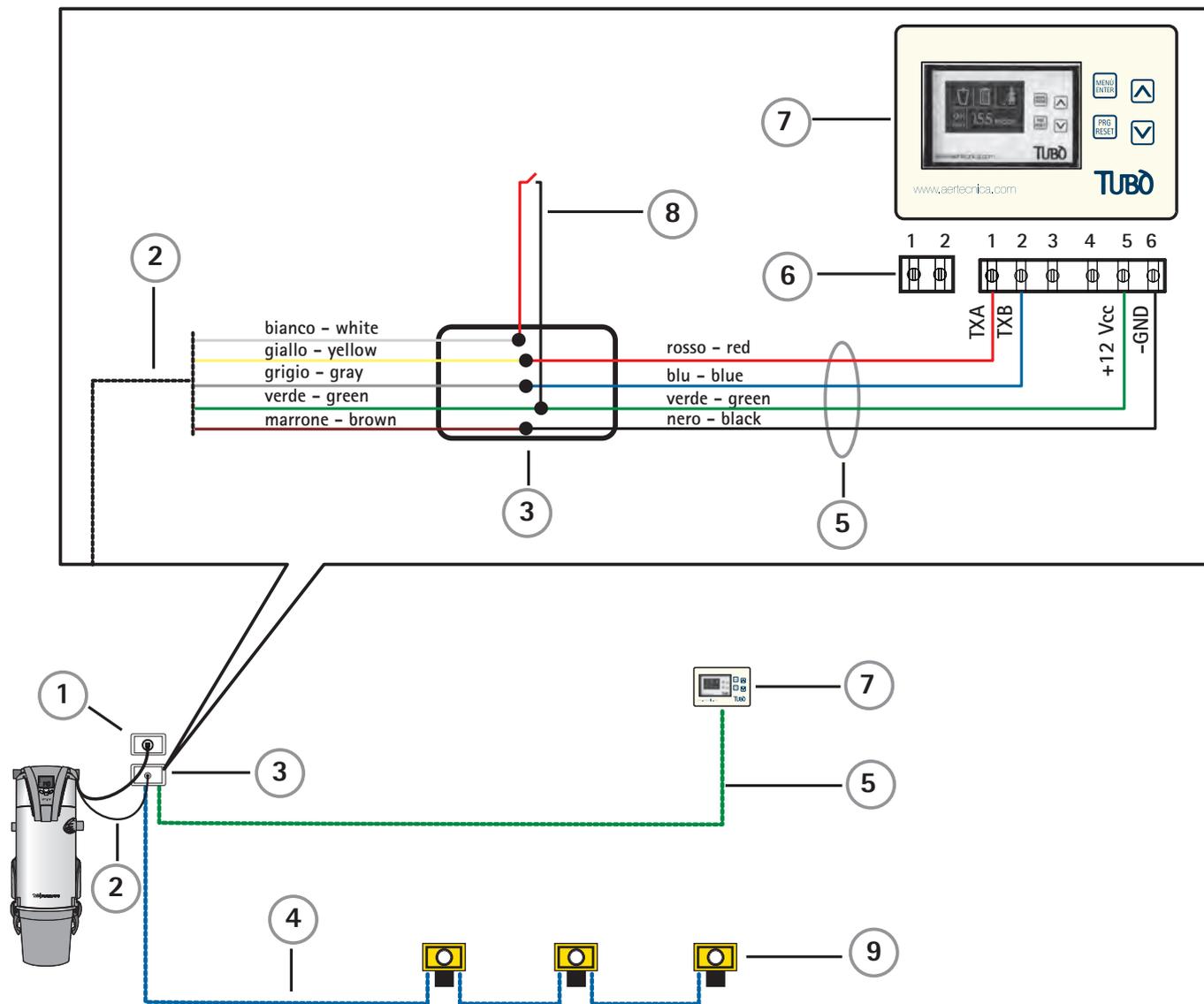
# ELECTRICAL CONNECTION CMT800

Each central power unit can power a single CMT800 (Dynamic Control Display).

The current draw of the device is 50 mA.

## SINGLE CONNECTION CMT800

Remove all cables inside the supplied sheathing (2) and follow the connection diagram shown below.



## GENERAL COMPONENTS

- 1 - central power unit power supply cable
- 2 - socket cable line 12v + Dynamic control display
- 3 - electric junction box
- 4 - pre-wired sheathing 2x1 ø16 for socket line

- 5 - pre-wired sheathing 4x1 ø16
- 6 - Dynamic control display card terminal board
- 7 - CMT800
- 8 - vacuum socket line contact
- 9 - inlet frames

## ELECTRICAL CONNECTION CM187

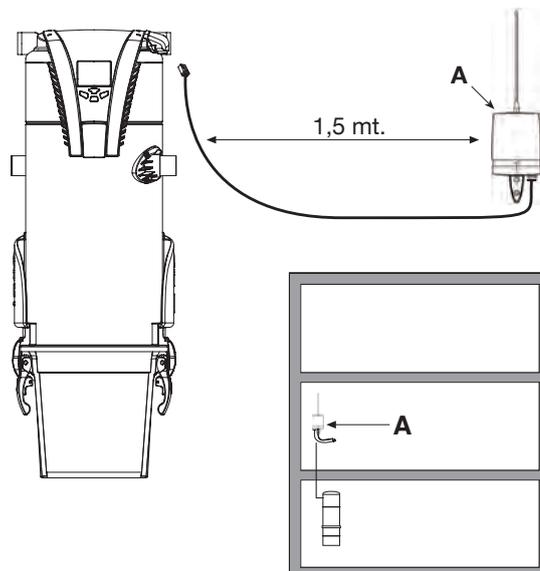
Position the receiver (A) near the central power unit at a distance of approx. 1.5 m.

### NOTE

In multi-floor homes, the receiver (A) should be installed on an intermediate floor.

In an open field, the radio control has a transmission range of 150 m.

Inside a building, the transmission range between the receiver and the transmitter is 15 m, which makes it possible to go up or down 2 floors.



## WIRELESS CONNECTION

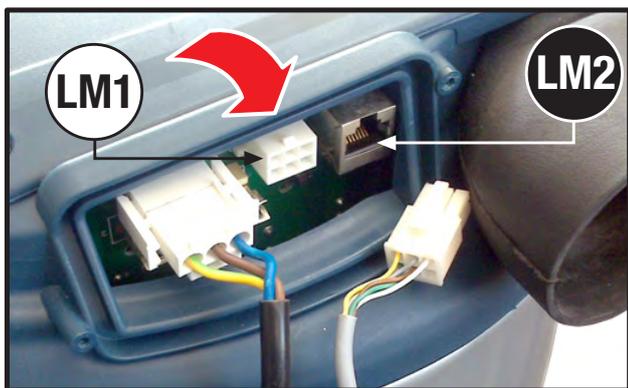
If the system only has a wireless connection to the central power unit.



1  
Open the power unit's electric connection casing.



3  
Insert the new wireless cable and connect it to the dedicated LM2 plug inlet.



2  
Disconnect the micro line connector LM1 and remove its cable with the cable gland.



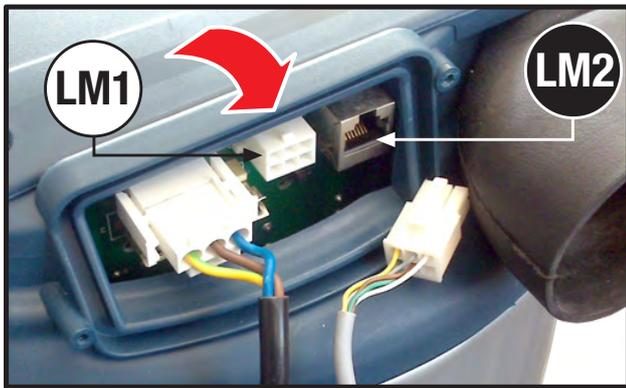
4  
Insert the cable gland in the specific hole and close the casing.

## WIRELESS AND MICRO LINE CONNECTION

If the system also has a 12V micro line.



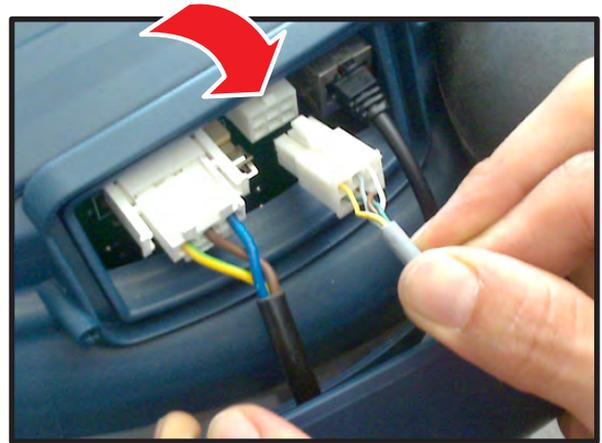
1  
Open the power unit's electric connection casing.



2  
Disconnect the micro line connector LM1, remove the cable gland from the hole and remove the cable.



3  
Insert the new wireless cable in the free hole and connect it to the dedicated LM2 plug inlet.



4  
Reinsert the LM1 micro line connector into its dedicated inlet and insert the other cable end into the hole together with the one from the LM2 line.



5  
Insert the endless end into the cable gland where the wireless cable was already inserted.



6  
Insert the cable gland with both lines, LM1 and LM2, into the hole, close the casing and complete the connection to the socket line.

# CONTROL PANEL WITH AVI DISPLAY AND KEYBOARD

for PERFETTO TXA, TPA and TP central power units

The central power unit has a control panel that includes an AVI display (immediate display) and a built-in keyboard to navigate and control the various central power unit operating parameters.



## AVI DISPLAY

The alpha-numeric display is controlled by the EVOLUTION 1.0 electronic card and is used to control the following parameters:

### **CLEAN BAG FILLING**

This detects the filling level of the dust container and displays 4 different levels.

### **FILTER CARTRIDGE SATURATION**

This detects the saturation level of the filter cartridge and displays 5 different levels.

### **OPERATING VACUUM RANGE**

This displays the vacuum level at which the central power unit is operating: LO (low) - OK (correct) - HI (high)

### **OPERATING VACUUM**

This displays the operating vacuum level of the central power unit

### **MOTOR POWER PERCENTAGE**

This displays the motor power percentage that is adjusted on the hose with the speed variator.

### **TOTAL MOTOR HOURS**

This displays the total hours of use of the central power unit.

### **MOTOR TEMPERATURE**

Displays the motor temperature.

### **STARTING ANOMALY/LOCK**

Displays an anomaly/lock due to an excessive number of starts within a 1 minute period.

### **MOTOR TEMPERATURE ANOMALY/LOCK**

Displays an anomaly/lock due to the engine temperature exceeding 80°C.

### **MAXIMUM USE TIME ANOMALY/LOCK**

Displays an anomaly/lock due to continuous use of the central power unit for 30 minutes.

## KEYBOARD

The keyboard has 4 buttons that are used to perform the following functions:

### **START BUTTON / $\Delta$**

The START button is used to start the central power unit after inserting the hose in the built-in vacuum socket.

The  $\Delta$  arrow is used to navigate the upper menu in the programme.

### **STOP BUTTON / $\nabla$**

The STOP button is used to turn off the central power unit. The unit also turns off 15 seconds after the built-in vacuum socket door is closed. The  $\nabla$  arrow is used to navigate the lower menu in the programme.

### **RESET/ESC BUTTON**

Pressing the button, the central power unit is reset after a lock or anomaly (see ANOMALY OR LOCK paragraph).

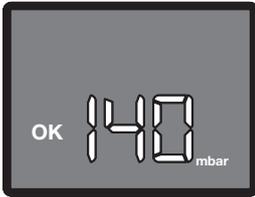
### **MENU/OK BUTTON**

By pressing the button, it displays the central power unit's maintenance cycles.

# CONTROL PANEL OPERATION

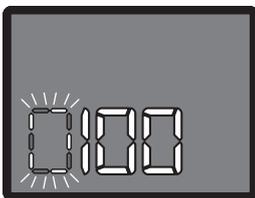
## ALPHA - NUMERIC DISPLAY

With the central power unit ON, it displays the following operating parameters:



### OPERATING VACUUM

In standard operating conditions, it displays the operating vacuum level of the central power unit



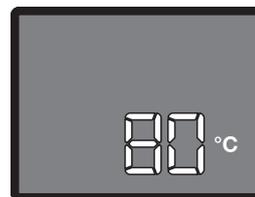
### MOTOR POWER PERCENTAGE

by pressing the MENU button once, it displays the motor power percentage that is adjusted on the hose with the speed variator.



### TOTAL MOTOR HOURS

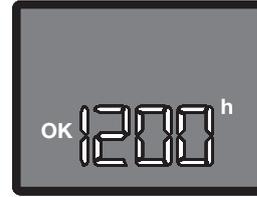
pressing the MENU button twice, it displays the total hours of central power unit use



### MOTOR TEMPERATURE

pressing the MENU button three times, it displays the temperature of the motor chamber

Once the vacuuming phase is completed with the central power unit in STAND BY, this displays the following operating parameters:



### TOTAL MOTOR HOURS

this displays the total hours of use of the central power unit



### FILTER SATURATION

by pressing the MENU button once, it displays the saturation degree of the filter cartridge, expressed in mbar according to this reference scale:

0 mbar = filter clean

10 mbar = filter saturated 50%

20 mbar = filter saturated 100%



### BAG FILLING

pressing the MENU button twice, it displays the amount of time that passed, in hours, since the last CLEAN BAG maintenance was performed



### STAND BY

If 30 seconds pass without pressing any button, 3 continuously flashing LED appear in the display.

By pressing any button, the central power unit exits STAND BY status and displays the total hours of central power unit use.

## CONTAINER/CLEAN BAG

### FILLING LEVEL

This calculates the presumed filling level of the dust container or CLEAN BAG, using 4 progressive stages.



filling level 25-49 %



filling level 50-74 %



filling level 75-99%



filling level 100 % - the bag is completely full and must be replaced  
(see ANOMALY AND LOCK TABLE)

## FILTER CARTRIDGE

### SATURATION LEVEL

The filter cartridge saturation level is displayed with 5 progressive stages.



saturation 20 - 39 %



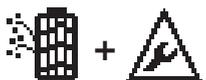
saturation 40 - 59 %



saturation 60 - 79 %



saturation 80 - 99 %



saturation 100 % - the central control unit stops due to filter saturation lock.  
(see ANOMALY AND LOCK TABLE)

## OPERATING VACUUM RANGE

Indicates the vacuuming power at which the system is operating. 3 different vacuum levels are shown on the display

<b>LO</b>	<b>OK</b>	<b>HI</b>
vacuum low	vacuum correct	vacuum high
(0 - 89 mbar)	(90 - 170 mbar)	(171 - 220 mbar)

### HI

If the system operates at a vacuum level greater than 220 mbar, the wording will flash and the central power unit will be locked after 15 seconds due to excessive operating vacuum.

(see ANOMALY AND LOCK TABLE)

## STARTING ANOMALY/LOCK

Displays an anomaly/lock due to an excessive number of starts/stops within a 1 minute period.



After 5 consecutive starts during a one minute period, the warning light signals that the central power unit will be locked if started again within one minute.

(see ANOMALY AND LOCK TABLE)



After 6 consecutive starts during a one minute period, the central power unit is locked. (see ANOMALY AND LOCK TABLE)

## MOTOR TEMPERATURE ANOMALY/LOCK

Displays an anomaly/lock due to the motor chamber temperature exceeding 80°C.



The temperature warning light appears, which flashes together with the fixed maintenance warning light that indicates a central power unit lock due to motor chamber overheating.

(see ANOMALY AND LOCK TABLE)

## MAXIMUM USE TIME ANOMALY/LOCK

Displays an anomaly/lock due to continuous use of the system for 30 minutes.



After 29 minutes of continuous system use, a flashing clock appears that indicates the maximum use time.

(see ANOMALY AND LOCK TABLE)



The central power unit is locked due to continuous system use for 30 minutes.

(see ANOMALY AND LOCK TABLE)

## ANOMALY TABLE PERFETTO TXA – TPA – TP CENTRAL POWER UNITS

SIGNAL	ANOMALY	INTERVENTION
<p>The symbols blink</p>  <p>DUST BAG FILLING</p>	<p>The dust bag filling reached 100%.</p> <p>The bag must be replaced.</p>	<p>After replacing the bag, press MENU three times in a row: C will appear with the number of hours of bag use. press RESET to reset the Timer.</p>
<p>The symbol blinks</p>  <p>FILTER CARTRIDGE SATURATION</p>	<p>The filter cartridge saturation exceeded 80%.</p> <p>Maintenance should be carried out on the cartridge (see Ordinary maintenance)</p>	<p>After carrying out maintenance on the cartridge, when the central power unit is turned on again the programme will automatically turn off the anomaly signal, resetting normal use.</p>
<p>The symbol blinks</p>  <p>TOO MANY STARTS</p>	<p>The central power unit was started 5 consecutive times in one minute.</p> <p>Starting the central power unit too frequently during a short period of time could damage the motor.</p>	<p>If the signal appears, do not turn the system off and on for at least one minute. After one minute of continuous use without turning the system off and on, the program will automatically reset the motor protection function, turning off the anomaly signal and resetting normal use.</p>
<p>The symbol blinks</p>  <p>MAXIMUM TIME OF CONTINUOUS USE</p>	<p>The central power unit has been on for 29 minutes without a break.</p> <p>Using the central power unit for a continuous period of time without a break could damage the motor.</p>	<p>If the signal appears, turn off the central power unit. After about a minute has passed, the programme will automatically reset the motor protection function, turning off the anomaly signal and resetting normal use.</p>
<p>The symbol blinks</p> <p>HI</p>  <p>MAXIMUM VACUUM</p>	<p>The system exceeded an operating vacuum of 220 mbar.</p> <p>An operating vacuum above 220 mbar could damage the motor.</p>	<p>If the signal appears, reduce the vacuum within 15 seconds so that the vacuum decreases below 220 mbar or turn off the vacuum system.</p> <p>After 15 seconds, or when restarting the central power unit, the programme will automatically reset the motor protection function, turning off the anomaly signal and resetting normal use.</p>
<p>The symbols blink</p>  <p>EXCESSIVE TEMPERATURE IN THE MOTOR CHAMBER</p>	<p>The motor chamber temperature exceeded 80 °C.</p> <p>The temperature of the motor chamber must go below 55°C to prevent it from burning due to overheating.</p>	<p>If the signal appears, turn off the central power unit within 15 seconds and wait until the motor temperature goes below 55 °C. After reaching this value, the programme will automatically reset the motor protection function, turning off the anomaly signal and resetting normal use.</p>

## LOCK TABLE PERFETTO TXA – TPA – TP CENTRAL POWER UNITS

SIGNAL	LOCKS	INTERVENTION
<p>The symbols blink</p>  <p>appears</p> <p><b>PRESS RESET</b></p>	<p><b>FILTER CARTRIDGE SATURATION</b> The central power unit is locked because the filter cartridge is saturated.</p>	<p>After the cartridge maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>
	<p><b>DUST BAG POSITIONED INCORRECTLY</b> The central power unit is locked because the bag is positioned incorrectly in the dust container.</p>	<p>Perform the maintenance correctly on the dust bag, press the RESET button to turn off the lock signal and reset for regular use.</p>
	<p><b>FILTER SENSOR PROBLEM</b> The central power unit is locked due to a filter sensor connection problem.</p>	<p>Make sure that the filter sensor connection pipe is not disconnected, broken or defective. After the maintenance press the RESET button to switch off the lock signal and reset to normal use. (see Motor – Filter vacuum sensor maintenance)</p>
<p>The symbols blink</p>  <p>appears</p> <p><b>PRESS RESET</b></p>	<p><b>TOO MANY STARTS</b> The central power unit is locked because it was started more than 6 consecutive times in one minute.</p>	<p>Press the RESET button to switch off the lock signal and reset for normal use.</p>
	<p><b>FALSE CONTACT ON THE SOCKET LINE</b> The central power unit is locked because one or more vacuum sockets are defective.</p>	<p>Reset the normal operation of the vacuum socket. After the maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>
	<p><b>SOCKET LINE CONNECTED INSERTED INCORRECTLY</b> The central power unit is locked because the connector on the electronic card is inserted incorrectly.</p>	<p>Correctly insert the connector on the electric card of the central power unit. After the maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>
<p>The symbol blinks</p>  <p>appears</p>  <p>appears</p> <p><b>PRESS RESET</b></p>	<p><b>MAXIMUM TIME OF CONTINUOUS USE</b> The central power unit is locked because it has been on for 30 minutes without a break.</p>	<p>Press RESET or remove and reinsert the hose or turn the system off and on using the switch on the hose to turn off the signal and reset to normal use.</p>
	<p><b>SHORT CIRCUIT ON THE SOCKET LINE</b> The central power unit is locked due to a short circuit or an incorrect connection on the socket line.</p>	<p>Restore the correct connection on the vacuum socket line. After the maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>

## LOCK TABLE PERFETTO TXA – TPA – TP CENTRAL POWER UNITS

SIGNAL	LOCKS	INTERVENTION
<p>The symbol blinks</p> <p style="text-align: center;"><b>HI</b></p> <p style="text-align: center;">appears</p> <div style="text-align: center;">  </div> <p style="text-align: center;">appears</p> <p style="text-align: center;"><b>PRESS RESET</b></p>	<p style="text-align: center;">MAXIMUM VACUUM</p> <p>The central power unit is locked because the operating vacuum exceeded 220 mbar.</p>	<p style="text-align: center;">BRUSHES WORN</p> <p>The central power unit is locked because the airflow is not sufficient.</p> <p>Cause 1: the bristles of the brush in use are worn out.</p> <p>Cause 2: the accessory used is not correct for the use.</p> <p>Replace the worn brush or change the accessory. After the maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>
		<p style="text-align: center;">SYSTEM OR HOSE CLOGGED</p> <p>The central power unit is locked because the hose or the system is clogged.</p> <p>Perform maintenance on the hose or vacuum system. After the maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>
<p>The symbols blink</p> <div style="text-align: center;">  </div> <p style="text-align: center;">appears</p> <div style="text-align: center;">  </div>	<p style="text-align: center;">EXCEEDING TEMPERATURE IN THE MOTOR CHAMBER</p> <p>The central power unit is locked because the temperature of the motor chamber exceeded 80 °C.</p> <p>Wait until the motor temperature goes below 55 °C. When this value is reached, the motor can be restarted.</p>	<p style="text-align: center;">AIR EXHAUST LINE CLOGGED</p> <p>Unclog the air exhaust line or the exhaust grille.</p> <p>After the maintenance press the RESET button to switch off the lock signal and reset to normal use.</p>
		<p style="text-align: center;">NON COMPLIANT AIR EXHAUST LINE</p> <p>The air exhaust line is too long and has too many curves that prevent regular air flow at the outlet.</p> <p>Replace the air exhaust line (See INSTALLATION chapter)</p> <p>Press RESET to switch off the lock signal and reset for normal use.</p>
		<p style="text-align: center;">EXHAUST MANIFOLD CRUSHED</p> <p>Reposition the exhaust tubing to align it correctly with the central power unit manifold.</p> <p>Press the RESET button to switch off the lock signal and reset for normal use.</p>

# PROGRAMMING MENU

## for PERFETTO TXA, TPA and TP central power units

In the PERFETTO TXA, TPA and TP series central power units, the programming menu is used to change many central power unit parameters, making it possible to modify its operation.

For example, the locks can be enabled and disabled, or the lock thresholds can be modified.

The default set programming is sufficient for most installations.

If a parameter needs to be changed, contact an Aertecnica technician.

### THE PROGRAMMING MENU IS DIVIDED INTO TWO PARTS:

THE FIRST PART is used to access a list of parameters from 0 to 27.

THE SECOND PART can be used to access the complete list of parameters from 0 to 81.

THE PROGRAMMING MENU CAN BE ACCESSED WHEN THE CENTRAL POWER UNIT IS IN STAND BY:

hold down the RESET/ESC button for a few seconds, the display will show: P 0, i.e. parameter no. 0.

- use the UP ARROW and the DOWN ARROW to scroll the menu list.
- to access a parameter, select the parameter and press the MENU/OK button
- use the UP ARROW and DOWN ARROW buttons to change the parameter settings.
- press the MENU/OK button to vary the value.
- press the RESET/ESC button to exit the parameter.

OPERATING PARAMETER LIST FOR PERFETTO TXA, TPA, TP CENTRAL POWER UNITS (rev. 1.02)			
Prog. no.	Description	Setting Range	Default Value
0	Load factory parameters	0 = Any parameter is active	1
		1 = for TP1-TP2-TP2A-TP3A-TP4A-TX2A-TX3A-TX4A central power units	
		2 = for TP1A-TX1A central power units	
		3 = for TP3-TP4 central power units	
1	Enable system self-calibration	0 = null	0
		1 = Enable function	
2	Adjustment of the motor's 100% point in relation to the potentiometer	Min value = 80	95
		Max value = 100	
3	Enabling of the operating lock due to maximum time reached	Active = 1	1
		Deactive = 0	
4	Enabling of the operating lock for maximum vacuum reached	Active = 1	1
		Deactive = 0	
5	Enabling of the possible consecutive starting lock	Active = 1	1
		Deactive = 0	
6	Enabling of the operating lock due to a dirty filter	Active = 1	1
		Deactive = 0	
7	Enabling of the operating lock due to a full bag	Active = 1	0
		Deactive = 0	
8	Enabling of the operating lock due to high temperature	Attivo = 1	1
		Disattivo = 0	

OPERATING PARAMETER LIST FOR PERFETTO TXA, TPA, TP CENTRAL POWER UNITS (rev. 1.02)			
Prog. no.	Description	Setting Range	Default Value
9	Enabling of the display stand-by status and stand-by type selection	0 = Disabled	1
		1 = 3 flashing points	
		2 = all off	
10	Enabling of the 12V output reset for remote control	Active = 1	1
		Deactive = 0	
11	Enable bag reset with Filter reset		1
12	Resetting motor operating hours		
13	Motor hour reset number		
14	Bag reset number		
15	Filter reset number		
16	Temperature lock number		
17	Bag lock number		
18	Filter lock number		
19	Starting lock number		
20	High vacuum lock number		
21	Maximum time lock number		
22	Code and time of the last lock	E.001 = Maximum time E.002 = High vacuum E.003 = Excessive starts E.004 = Filter dirty E.005 = Bag full E.006 = High temperature Up / Down scroll lock code and time	
23	Lock historical acquisition time		
24	Display of total card hours (with motor on)		
25	Displays Firmware version		
26	AVI electronic card diagnostics	Active = 1	1
		Deactive = 0	
27	Enabling of extended menus on the display and enables extended programming	Active = 1	0
		Deactive = 0	
		Extended programming =2	
28	Lock registration reset	0 = null	0
		1 = Enable function	

**OPERATING PARAMETER LIST FOR PERFETTO TXA, TPA, TP CENTRAL POWER UNITS (rev. 1.02)**

<b>Prog. no.</b>	<b>Description</b>	<b>Setting Range</b>	<b>Default Value</b>
29	Dirty filter operating lock threshold in mBar	Min value = 0	20
		Max value = 50	
30	Dirty filter display threshold at level 5 in mBar	Min value = 0	18
		Max value = 50	
31	Dirty filter display threshold at level 4 in mBar	Min value = 0	16
		Max value = 50	
32	Dirty filter display threshold at level 3 in mBar	Min value = 0	14
		Max value = 50	
33	Dirty filter display threshold at level 2 in mBar	Min value = 0	12
		Max value = 50	
34	Dirty filter display threshold at level 1 in mBar	Min value = 0	12
		Max value = 50	
35	Dirty filter operating lock threshold in hours	Min value = 0	13
		Max value = 50	
36	Dirty filter display threshold at level 5 in hours	Min value = 0	11
		Max value = 50	
37	Dirty filter display threshold at level 4 in hours	Min value = 0	9
		Max value = 50	
38	Dirty filter display threshold at level 3 in hours	Min value = 0	5
		Max value = 50	
39	Dirty filter display threshold at level 2 in hours	Min value = 0	3
		Max value = 50	
40	Dirty filter display threshold at level 1 in hours	Min value = 0	3
		Max value = 50	
41	Dirty filter selection hours 0 mBar	Millibar = 0	0
		Hour = 1	
42	Bag filling operating lock threshold (in hours)	Min value = 0	10
		Max value = 20	
43	Bag filling display threshold at level 5	Min value = 0	8
		Max value = 20	
44	Bag filling display threshold at level 4	Min value = 0	6
		Max value = 20	
45	Bag filling display threshold at level 3	Min value = 0	4
		Max value = 20	
46	Bag filling display threshold at level 2	Min value = 0	2
		Max value = 20	

**OPERATING PARAMETER LIST FOR PERFETTO TXA, TPA, TP CENTRAL POWER UNITS (rev. 1.02)**

<b>Prog. no.</b>	<b>Description</b>	<b>Setting Range</b>	<b>Default Value</b>
47	Bag filling display threshold at level 1	Min value = 0	2
		Max value = 20	
48	Maximum vacuum operating lock threshold	Min value = 0	220
		Max value = 500	
49	High vacuum screen display threshold (HI)	Min value = 0	170
		Max value = 500	
50	Low vacuum screen display threshold (LO)	Min value = 0	90
		Max value = 500	
51	High temperature operating lock threshold	Min value = 0	80
		Max value = 150	
52	High temperature operating lock reset threshold	Min value = 0	55
		Max value = 80	
53	Minimum motor percentage	Min value = 0	40
		Max value = 100	
54	Value detected by the external vacuum sensor with minimum instrument value	Min value = 0	57
		Max value = 1023	
55	Value detected by the external vacuum sensor at the sampling vacuum	Min value = 0	262
		Max value = 1023	
56	Filter vacuum sensor sampling vacuum value	Min value = 0	150
		Max value = 500	
57	Value detected by the motor vacuum sensor with minimum instrument value	Min value = 0	57
		Max value = 1023	
58	Value detected by the motor vacuum sensor at the sampling vacuum	Min value = 0	262
		Max value = 1023	
59	Motor sensor sampling vacuum value	Min value = 0	150
		Max value = 500	
60	Alignment of motor and filter sensor 0		
61	Enabling of vacuum sensor self-calibration before the motor starts	Active = 1	1
		Deactive = 0	
62	Differential vacuum compensation	Min value = 0	30
		Max value = 60	
63	Temperature sensor calibration	Min value = -10.0	0
		Max value = +10.0	
64	Maximum vacuum reached operating lock delay	Min value = 0	15
		Max value = 255	

**OPERATING PARAMETER LIST FOR PERFETTO TXA, TPA, TP CENTRAL POWER UNITS (rev. 1.02)**

Prog. no.	Description	Setting Range	Default Value
65	Motor ramp time in tenths of a second	Min value = 0	15
		Max value = 255	
66	Maximum number of possible consecutive starts	Min value = 0	5
		Max value = 20	
67	Maximum operating time in minutes	Min value = 0	30
		Max value = 240	
68	Enabling of the transmission master towards the display slaves	Enables with the writing in a register for each string transmitted = 1	2
		Disabled = 0	
		Enables, writing in all registers for each string transmitted = 2	
69	Serial latency	Min value = 30	200
		Max value = 800	
70	Maximum PID offset	Min value = 0	225
		Max value = 500	
71	Maximum PID offset from the potentiometer	Min value = 0	185
		Max value = 500	
72	Proportional term of the PID	Min value = 0	0,4
		Max value = 2000	
73	Integral term of the PID	Min value = 0	0,18
		Max value = 2000	
74	Derived term of the PID	Min value = 0	0,15
		Max value = 2000	
75	Cycle time of the PID	Min value = 20	30
		Max value = 100	
76	Enabling of the PID	0 = Disabled	0
		1 = Enabled as maximum pressure threshold	
		2 = Enabled standard, maintains the set point value in mBar set by the potentiometer	
77	Display of the Micro line potentiometer values (AD)		
78	Display of the filter vacuum sensor values (AD)		
79	Display of the motor vacuum sensor values (AD)		
80	Display of the temperature sensor values (AD)		

OPERATING PARAMETER LIST FOR PERFETTO TXA, TPA, TP CENTRAL POWER UNITS (rev. 1.02)			
Prog. no.	Description	Setting Range	Default Value
81	Display of the potentiometer power supply voltage values (AD)		

## AVI ELECTRONIC CARD DIAGNOSTICS

When the PERFETTO TXA, TPA and TP central power units are powered, the electronic card performs the diagnostic test. The digital signals will appear for a few seconds on the display. This makes it possible to check if all are functioning.

The diagnostics programme will automatically check that the reference voltage and sensor values are correct.

If a value is incorrect, a code will appear that identifies the problem type.

The following list shows the codes associated with the diagnostics.

E.0.20	Problem on the Micro line. Input voltage too low or card problem
E.0.21	Problem on the Micro line. Input voltage too high or card problem
E.0.22***	Filter vacuum sensor problem. Input voltage too low or card problem
E.0.23***	Filter vacuum sensor problem. Input voltage too high or card problem
E.0.24***	Motor vacuum sensor problem. Input voltage too low or card problem
E.0.25***	Motor vacuum sensor problem. Input voltage too high or card problem
E.0.26	Temperature sensor problem. Input voltage too low or sensor disconnected or card problem
E.0.27	Temperature sensor problem. Input voltage too high or sensor disconnected or card problem
E.0.28	Micro line power supply problem. Output voltage too low or card problem
E.0.29	Micro line power supply problem. Output voltage too high or card problem
E.0.30	Central power unit power supply problem. Frequency too low or card problem
E.0.31	Central power unit power supply problem. Frequency too high or card problem
E.0.32	Central power unit power supply problem. Zero Crossing alignment not detected or card problem
E.0.50	Motor sensor problem. Vacuum too low or sensor disconnected (this type of error is displayed only when the central power unit is operating and when the high vacuum threshold is exceeded, see Motor and Filter Vacuum Sensor Maintenance)
***	When this problem appears, align the vacuum sensors with parameter no. 60 (0 alignment of the filter and motor sensors)

# AVT CONTROL PANEL

for CLASSIC TC central power units

## AVT PANEL

The central power unit is equipped with an AVT panel (timed display) that makes it possible to display the central power unit's main maintenance operations.

## CONTROL PANEL OPERATION

### DUST CONTAINER FILLING LED



Indicates the presumed maximum filling of the dust container. When the LED turns on, the dust container is full and must be emptied. Perform the maintenance and turn off the signal by pressing the PRESS RESET button.

### FILTER CARTRIDGE SATURATION LED



Indicates the presumed maximum saturation of the filter cartridge. When the warning light turns on, the filter cartridge is saturated and must be regenerated or replaced. Perform the maintenance and turn off the signal by pressing the PRESS RESET button.

### MOTOR TEMPERATURE LED



This indicates a central power unit lock due to a motor chamber temperature that exceeds 80°C. To reset central power unit use, the temperature must go below 55°C. After the temperature has gone below 55°C, press the PRESS RESET button to remove the signal.

### LED ON



This indicates normal central power unit operation.

### LED ON BLINKING



Indicates that the operating vacuum exceeds the value of 220 mbar. The central power unit will be locked after 15 seconds.



### LED STAND BY



This indicates that the central power unit is powered but not being used.

### PRESS RESET BUTTON



This is used to reset central power unit anomalies.

### HIGH OPERATING VACUUM LOCK



The central power unit is locked because the operating vacuum exceeded the 220 mbar limit for more than 15 seconds; The ON and PRESS RESET lights blink ( see LOCK TABLE of the TC central power units).

Switch off the signal by pressing the PRESS RESET button.

## LOCK TABLE CLASSIC TC CENTRAL POWER UNITS

SIGNAL	LOCKS	INTERVENTION
<p>The symbols blink</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	<p style="text-align: center;"><b>VACUUM HIGH</b></p> <p>The central power unit is locked because the operating vacuum exceeded 220 mbar.</p>	<p style="text-align: center;"><b>BRUSHES WORN</b></p> <p>The central power unit is locked because the airflow is not sufficient. Cause 1: the bristles of the brush in use are worn out. Cause 2: the accessory used is not correct for the use.</p> <p>Replace the worn brush or change the accessory. After the maintenance press the PRESS RESET button to switch off the lock signal and reset to normal use.</p> <hr/> <p style="text-align: center;"><b>SYSTEM OR HOSE CLOGGED</b></p> <p>The central power unit is locked because the hose or the system is clogged.</p> <p>Perform maintenance on the hose or vacuum system. After the maintenance press the PRESS RESET button to switch off the lock signal and reset to normal use.</p>
<p>The symbol blinks</p> <div style="text-align: center;">  </div>	<p style="text-align: center;"><b>EXCEEDING TEMPERATURE IN THE MOTOR CHAMBER</b></p> <p>The central power unit is locked because the temperature of the motor chamber exceeded 80 °C.</p> <p>Wait until the motor temperature goes below 55 °C. When this value is reached, the PRESS RESET light will turn on and the motor can be started.</p>	<p style="text-align: center;"><b>AIR EXHAUST LINE CLOGGED</b></p> <p>Unclog the air exhaust line or the exhaust grille.</p> <p>After the maintenance press the PRESS RESET button to switch off the lock signal and reset to normal use.</p> <hr/> <p style="text-align: center;"><b>NON COMPLIANT AIR EXHAUST LINE</b></p> <p>The air exhaust line is too long and has too many curves that prevent regular air flow at the outlet.</p> <p>Replace the air exhaust line (See INSTALLATION chapter)</p> <p>Press the RESET button to switch off the lock signal and reset to normal use.</p> <hr/> <p style="text-align: center;"><b>EXHAUST MANIFOLD CRUSHED</b></p> <p>Reposition the exhaust tubing to align it correctly with the central power unit manifold.</p> <p>Press the RESET button to switch off the lock signal and reset to normal use.</p>

# PROGRAMMING MENU

## for CLASSIC TC central power units

In the CLASSIC TC series central power units, the programming menu is divided into two parts: PRIMARY menu and SECONDARY menu.

### PRIMARY MENU

RESET filter hours

RESET container hours

To access the first menu (with the central power unit in STAND BY), press the RESET button until all LEDs turn on, then release the button. In this mode, the STAND BY LEDs will flash and the fixed FILTER LED will turn on. To reset the FILTER timer, press the RESET button until the FILTER LED starts to flash. Releasing the button resets the FILTER timer and the CONTAINER LEDS turn on.

Repeat the same operation to reset the CONTAINER timer. If you do not want to reset the timers, press the RESET button until the RESET LED turns on. Press down the RESET button and when the red RESET LED starts to flash, release the button to exit the menu.

If the RESET button is not pressed, the central power unit will automatically exit the primary menu.

### SECONDARY MENU

Automatic off test due to high vacuum Electronic card diagnostics

Motor hour RESET

To access the secondary menu (while the central power unit is in STAND BY), hold down the RESET button until all LEDS start to flash. Releasing the button, the ON LED becomes fixed and the STAND BY LED starts to flash.

#### **AUTOMATIC SWITCH OFF TEST DUE TO HIGH PRESSURE**

Note: the test must be carried out with the central power unit connected to the system and with all sockets closed in order to test the system's air-tight seal.

A default value of 22 mbar has been set in all central power units, for automatic turning off due to high vacuum. If in some cases a higher vacuum value is necessary, proceed as follows.

Access the secondary menu. When the ON LED is on fixed and the STAND BY LED is flashing, hold down the RESET button; the ON LED will start to flash; releasing the RESET button the central power unit will turn on and start to vacuum for approx. 20 seconds.

After 20 seconds, the central power unit will turn off automatically and save the vacuum value that was just reached, which will become the new automatic switch off threshold.

If the value is correct, the STAND BY LED will turn on.

If the value is not correct (vacuum too low), all LEDs will flash on the panel, signalling that there are leaks in the system.

When the test is complete, the central power unit is ready to be used.

### **ELECTRONIC CARD DIAGNOSTICS**

When the CLASSIC TC central power units are powered, the electronic card performs the diagnostic test. All the panel lights will turn on for a few seconds. This makes it possible to check if all are functioning.

To perform the test manually, access the secondary menu.

When the ON LED is on fixed and the STAND BY LED is flashing, press the RESET button once; the following LEDs will turn on: the STANDY BY LED will start to flash and the FILTER and BAG LEDS will turn on fixed.

To proceed with the diagnostics, hold down the RESET button, as soon as the FILTER and BAG LEDS start to flash, release the button. All of the LEDs will turn on for approx. 15 seconds, if the result of the diagnostics is positive, when all LEDs turn off the STAND BY LED will turn on immediately.

If the test is positive, the central power unit is ready to be used.

If the card detected an anomaly, the signal light will turn on, with a series of flashes. When the light turns off, the STAND BY LED will turn on again.

In this case the card must be replaced.

### **MOTOR HOUR RESET**

Access the secondary menu. When the ON LED is on fixed and the STAND BY LED is flashing, press the RESET button twice; the following LEDs will turn on: the STAND BY LED will turn on flashing and the TEMPERATURE LED will turn on fixed.

To proceed with resetting the motor hours, hold down the RESET button; as soon as the TEMPERATURE LED starts to flash, release the button. The RESET LED will turn on and the motor hours will be automatically reset.

To exit programming, hold down the RESET button and release it when the relative LED starts to flash. If the RESET button is not pressed for 10 seconds, the central power unit will exit programming automatically independently of the location.

## ORDINARY MAINTENANCE

Careful maintenance prolongs the life-time of the central power unit and guarantees better performance.

### NOTE

 Before starting with any maintenance operation, disconnect the central power unit from the power supply.

 The central power unit must not be operated without the filter cartridge inserted. Failure to observe this rule could cause damage to the motor that is not covered by the warranty.

## ORDINARY MAINTENANCE

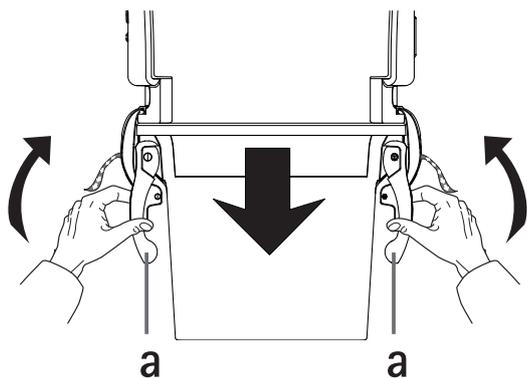
for PERFETTO TXA, TPA and TP central power units

### CONTAINER EMPTYING

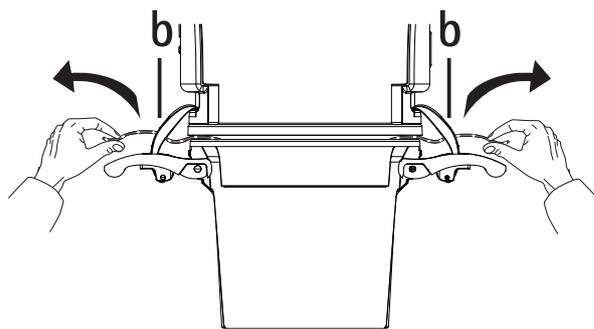
These central power units indicate the CLEAN BAG filling level on the display.

It is recommended to replace the CLEAN BAG before it reaches its maximum capacity limit.

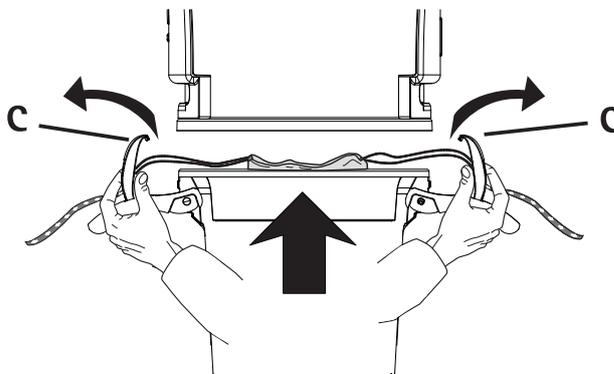
1 - Rotate both handles (a) upwards simultaneously. The dust container will lower.



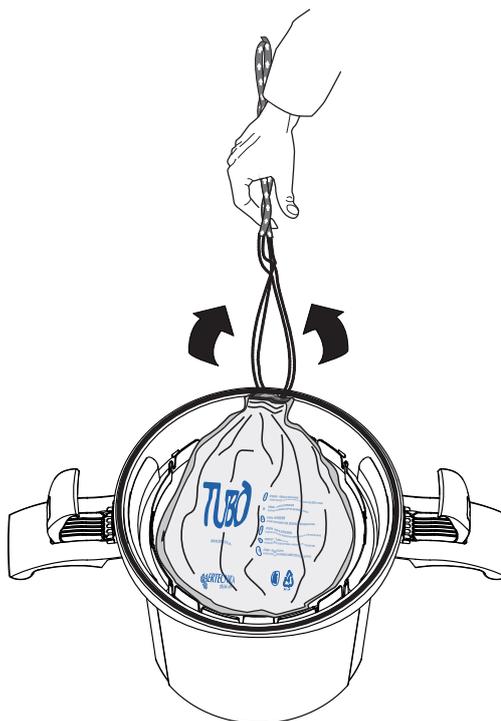
2 - Close the CLEAN BAG by pulling the strips (b) all the way, without unhooking the dust container.



3 - Unhook the container from the support by opening the levers (c) sideways and put it on the ground.

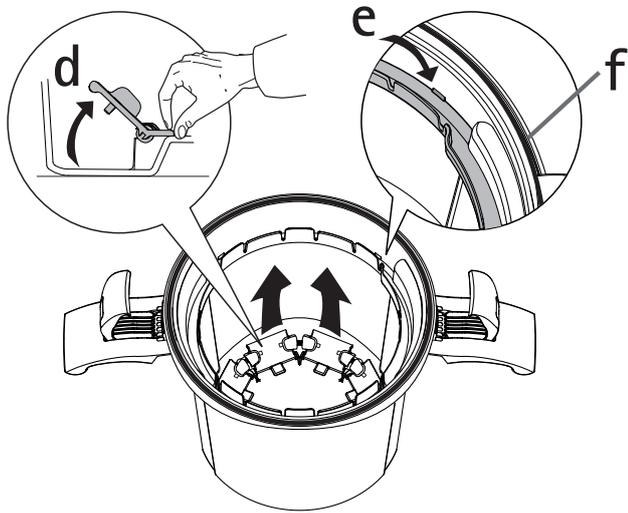


4 - Remove the full bag and dispose of it (in compliance with the environmental regulations valid in the country of use).



# CLEAN BAG INSERTION

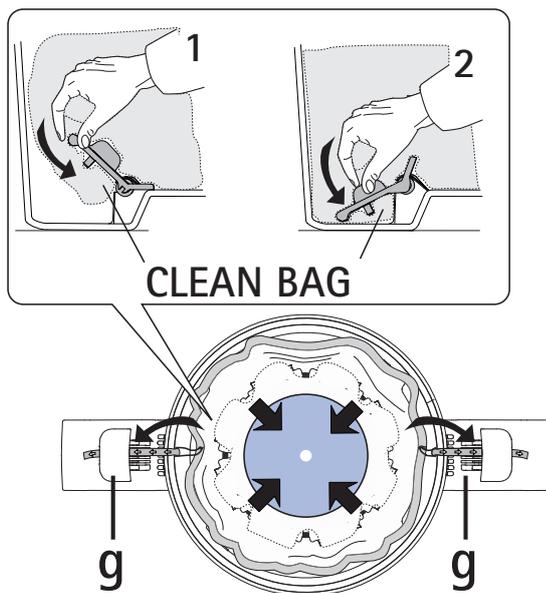
1 - Open the CLEANBAG blocking system clamps that are on the bottom of the dust container (d).  
 Check that the bag tensioner ring is fixed to the dust container under the appropriate joints (e).  
 Check that the dust container gasket (f) is in the correct position.



2 - Insert the CLEANBAG in the dust container ensuring that the blue disc (printed on the bottom of the bag) is placed at the centre of the container.  
 The strips must be levelled with the handles.

NOTE

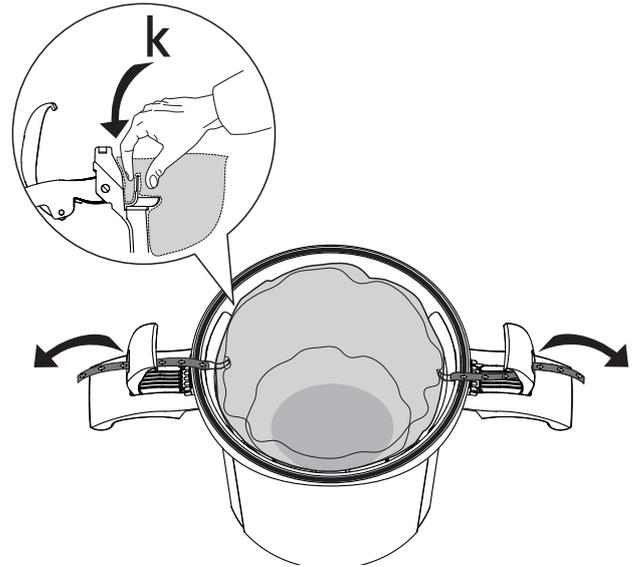
The dust bag must be inserted so that the strips enter the slots (g) of the dust container handles.  
 Fold the CLEANBAG under each clamp pair (1-2) and close them one at the time ensuring that the bottom of the bag is completely fitted inside the blocking system.



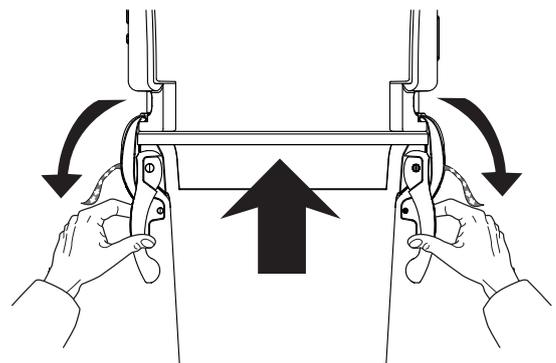
3 - Fold the upper part of the bag inside the bag tensioner ring (k). The CLEANBAG must adhere to the internal walls of the dust container.  
 Insert the strips into the handle slots (g) allowing them to come out of the container.

NOTE

Only the strips of the dust container must come out: any overhanging parts of the bag can create anomalous noises and loss of air.



4 - Rehook the dust container and close the handles.



# FILTER CARTRIDGE REPLACEMENT



Before starting with any maintenance operation, disconnect the central power unit from the power supply.

It is recommended to replace the filter cartridge every 2-3 years. This period may change depending on the degree of system use.



## ATTENTION

When carrying out this operation, it is easy to come into contact with the dust collected on the cartridge walls.



Before removing the filter cartridge, it is recommended to wear suitable personal protective garments.



These central power units display the filter cartridge clogging level. The filter cartridge maintenance signal will appear on the central power unit AVI display

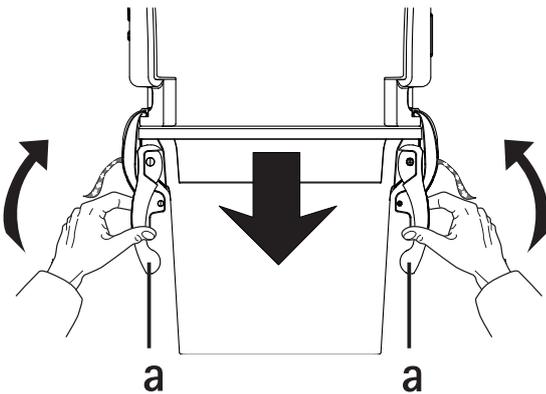
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### NOTE

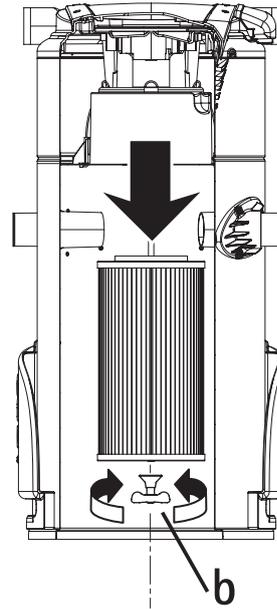
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It is recommended to replace the cartridge when the clogging level indicated on the display exceeds 80%.

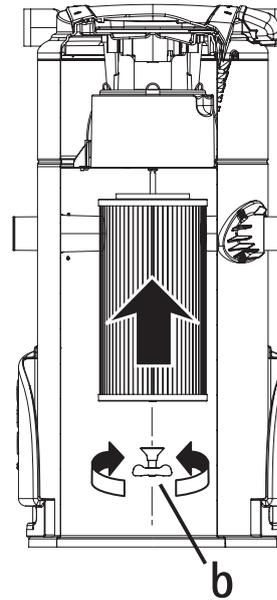
1 - Open the dust container rotating the handles (a).



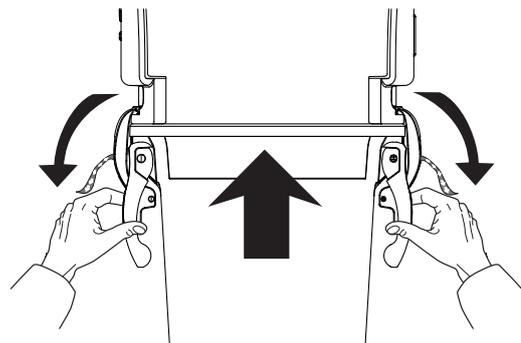
2 - Unscrew the knob (b) that fastens the cartridge and remove it from its housing.



3 - Insert a new cartridge and tighten the knob completely (b). The alignment system guarantees perfect filter cartridge fastening.



4 - Rehook the dust container and close the handles.



# ORDINARY MAINTENANCE

## for CLASSIC TC central power units

Careful maintenance prolongs the life-time of the central power unit and guarantees better performance.

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### NOTE

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Before starting with any maintenance operation, disconnect the central power unit from the power supply.

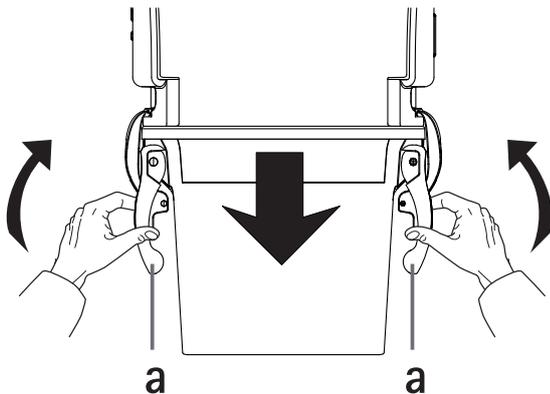


The central power unit must not be operated without the filter cartridge inserted. Failure to observe this rule could cause damage to the motor that is not covered by the warranty.

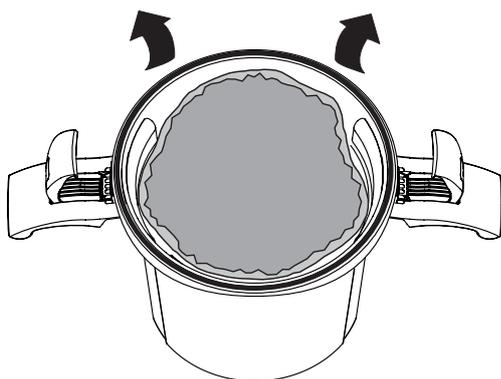
## CONTAINER EMPTYING

This operation is necessary when the full container warning light lights up on the AVT panel.

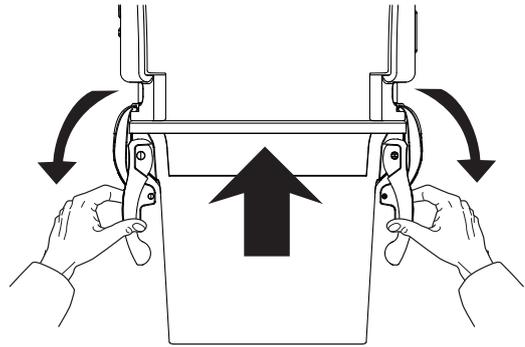
1 - Rotate both handles (a) upwards simultaneously. The dust container will lower.



2 - Empty the dust container in a suitable collection bag or container and dispose of it correctly (in accordance with current environmental standards in the country of use).



3 - Rehook the dust container and close the handles.



## FILTER CARTRIDGE REPLACEMENT

This operation is necessary when the saturated filter cartridge warning light lights up on the AVT panel.



Before starting with any maintenance operation, disconnect the central power unit from the power supply.

It is recommended to replace the filter cartridge every 2-3 years. This period may change depending on the degree of system use.



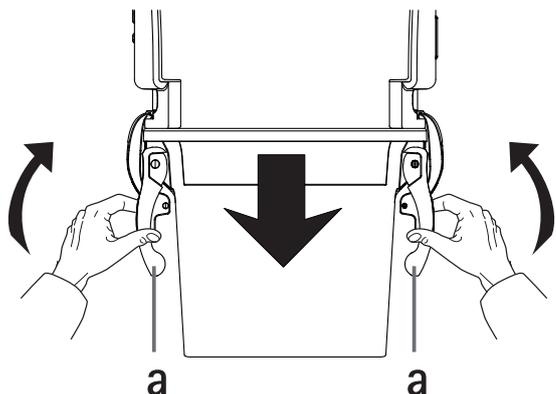
### ATTENTION

When carrying out this operation, it is easy to come into contact with the dust collected on the cartridge walls.

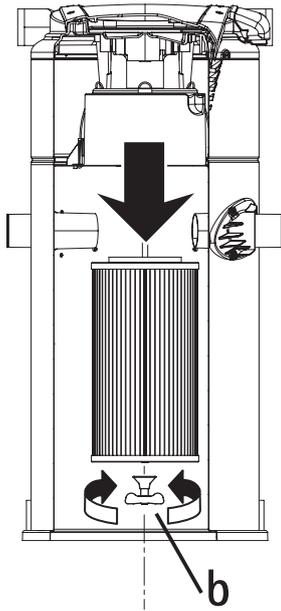


Before removing the filter cartridge, it is recommended to wear suitable personal protective garments.

1 - Open the dust container rotating the handles (a).



2 - Unscrew the knob (b) that fastens the cartridge and remove it from its housing.



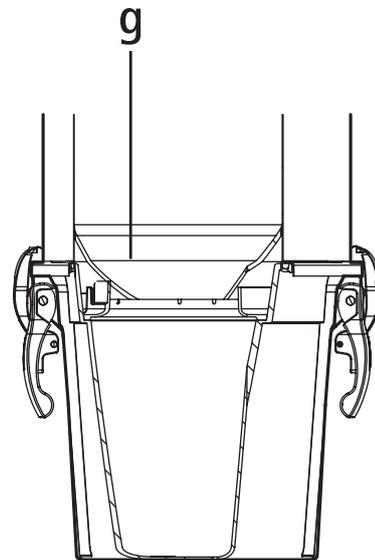
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NOTE

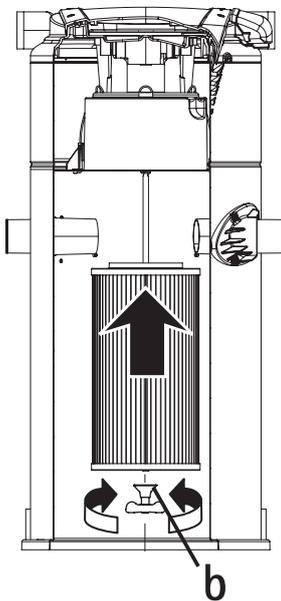
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Check that the dust container gasket (g) is in good condition and placed correctly.

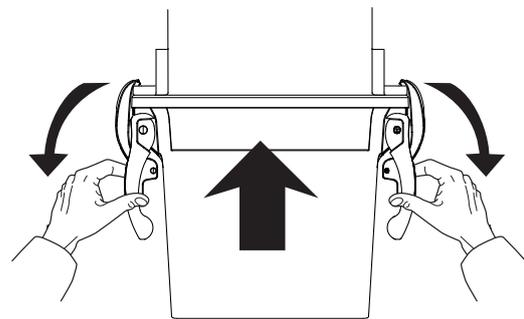
In case of anomaly call Aertecnica.



3 - Insert a new cartridge and tighten the knob completely (b). The alignment system guarantees perfect filter cartridge fastening.



4 - Rehook the dust container and close the handles.



USE ONLY ORIGINAL AERTECNICA  
SPARE PARTS

# FILTER CARTRIDGE REGENERATION

for ALL CENTRAL POWER UNIT models

Periodic filter cartridge regeneration improves overall centralised vacuum system productivity.

With normal system use, the cartridge should be checked every 4 months.

The AVI display for the PERFETTO TXA, TPA and TP lines shows the filter cartridge saturation level. It is recommended to regenerate the cartridge in any case when the clogging level indicated on the display exceeds 80%.

The AVT panel for the CLASSIC TC lines shows the saturated filter cartridge indication.

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## NOTE

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To effectively regenerate the saturated cartridge and keep the centralised vacuum system operating, it is recommended to insert a new filter cartridge immediately, restart the system and vacuum the largest dust particles from the saturated cartridge using the system itself.



### ATTENTION

When carrying out this operation, it is easy to come into contact with the dust collected on the cartridge walls.



Before removing the filter cartridge, it is recommended to wear suitable personal protective garments.

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## NOTE

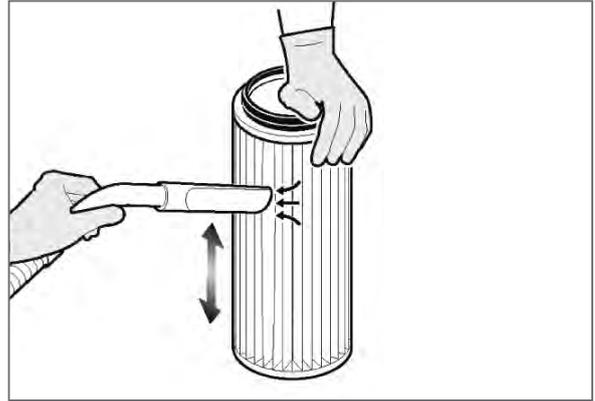
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The central power unit must not be operated without the filter cartridge inserted. Failure to observe this rule could cause damage to the central power unit motor.



**USE ONLY ORIGINAL AERTECNICA SPARE PARTS**

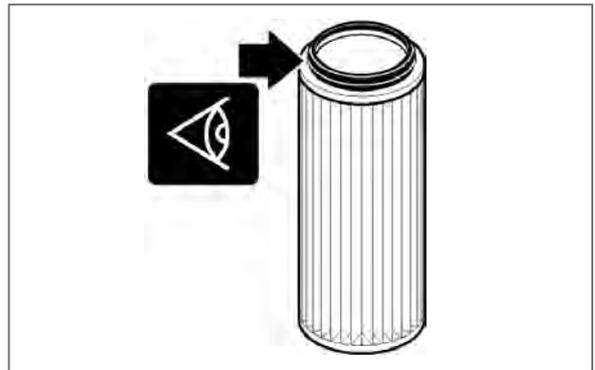
1 - Vacuum the dust collected on the saturated cartridge walls using the system itself.



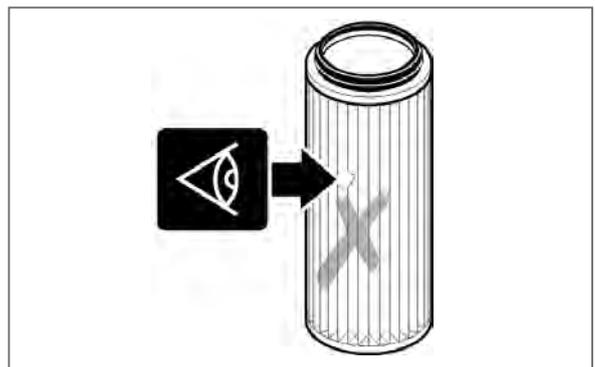
2 - After an initial brief cleaning, wash the filter cartridge with a jet of water that is not too strong and remove the dust that penetrated between the walls.



3 - Allow the cartridge to dry completely.



4 - Make sure that there are not any tears or cuts on the cartridge walls. In this case the damaged cartridge must be replaced with a new one



## EXTRAORDINARY MAINTENANCE

This chapter describes all the disassembly and replacement phases for some central power unit components.

Reinstall the central power unit components by following the described operations in the reverse order.

## AVI CARD MAINTENANCE

for PERFETTO TXA, TPA and TP central power units

1 - remove the cup unscrewing the 4 fixing screws.



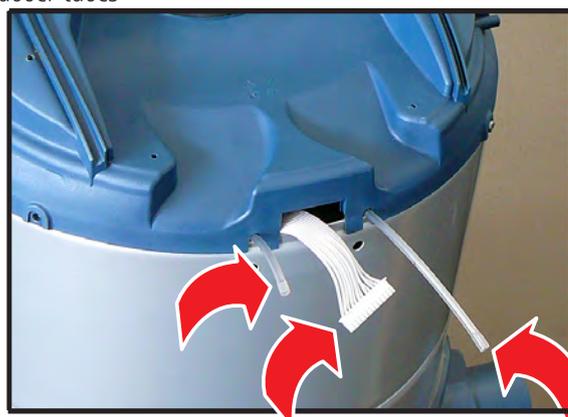
2 - unscrew the 2 upper screws on the front casing.



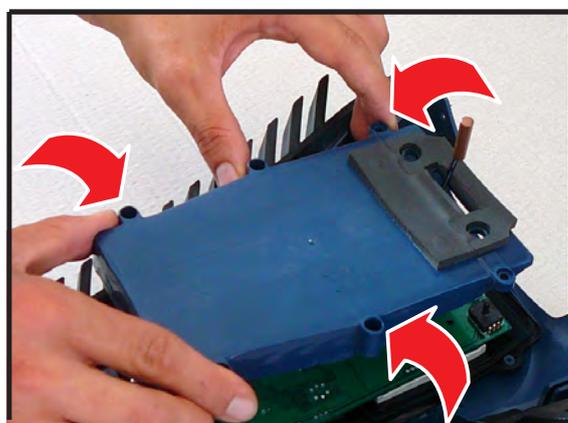
3 - unscrew the two screws under the socket door.



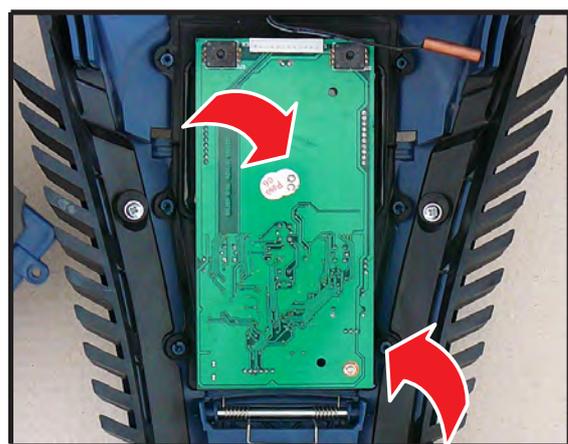
4 - remove the front casing after disconnecting the connector and the rubber tubes



5 - remove the card cover by unscrewing the six screws.



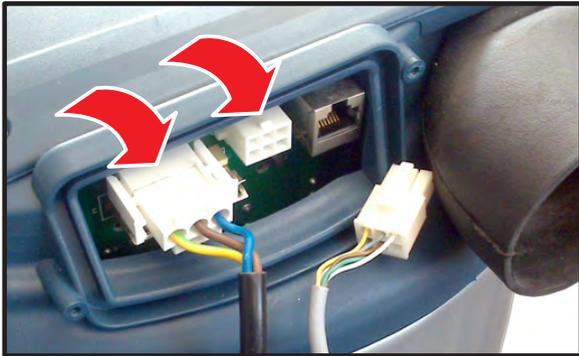
6- remove the AVI card and replace it.



# POWER CARD MAINTENANCE

for ALL CENTRAL POWER UNIT models

1 - Open the casing, unscrewing the two screws on the sides. Disconnect the power supply line and socket line connectors.



2 - remove the cup unscrewing the 4 fixing screws.



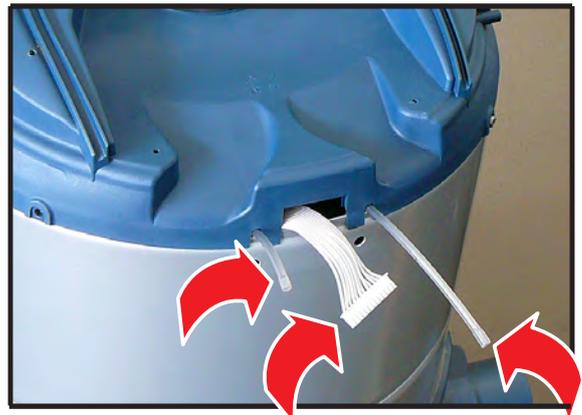
3 - unscrew the 2 upper screws on the front casing.



4 - unscrew the 2 screws under the socket door (in the provided modules).



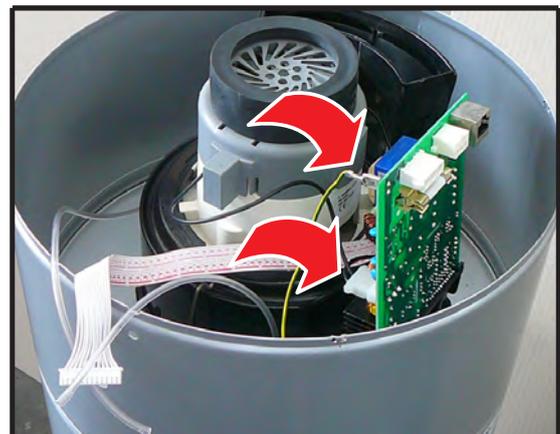
5 - remove the front casing after disconnecting the connector and the rubber tubes.



6 - open the motor compartment unscrewing the 4 screws.



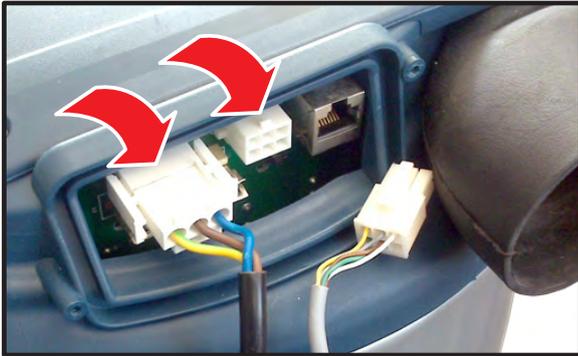
7 - disconnect the card connection cables, remove it from the motor compartment and replace it.



# AVT CARD MAINTENANCE

for CLASSIC TC central power units

1 - Open the casing, unscrewing the two screws on the sides. Disconnect the power supply line and socket line connectors.



4 - disconnect the connector connected to the AVT panel and remove the front casing.



2 - remove the cup unscrewing the 4 fixing screws.



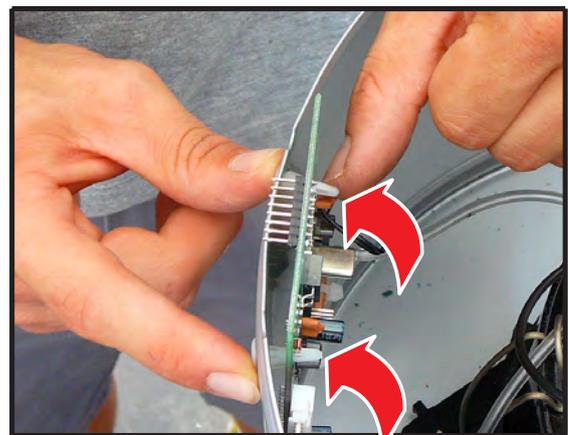
5 - open the motor compartment unscrewing the 4 screws.



3 - unscrew the 2 upper screws and the two screws in front of the front casing.



6 - unhook the fastening spacers, disconnect the AVT card power supply cable and replace it.



# MOTOR MAINTENANCE

## FOR ALL CENTRAL POWER UNIT MODELS 3 AND 4

Disconnect the power supply line and socket line connectors and remove the front casing as indicated in the power card maintenance sequence.

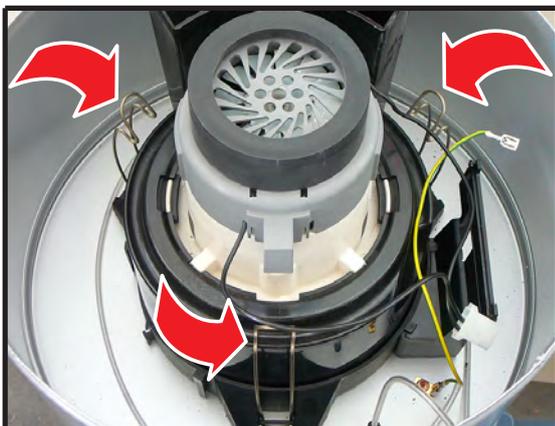
1 - open the motor compartment unscrewing the 4 screws.



2 - disconnect the motor-card connector and remove the power card.



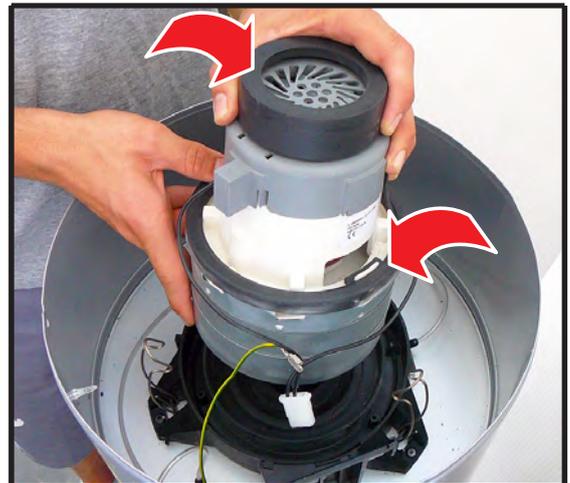
3 - open the 3 hooks that fasten the motor.



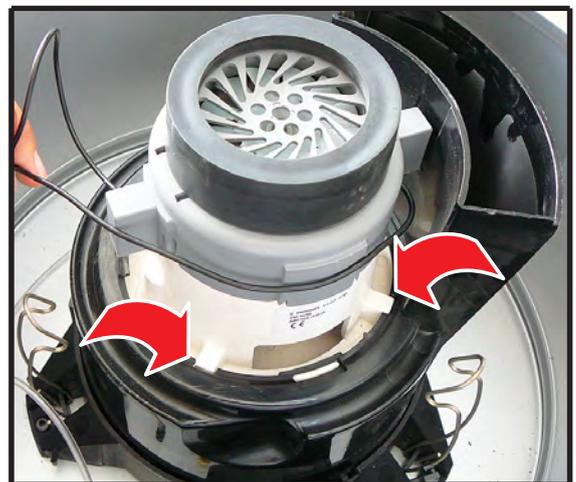
4 - turn the motor stop shell and remove it from its housing.



5 - extract the motor, remove the 2 seal gaskets and replace it.



6 - insert the motor so that the centring supports enter the appropriate joints.

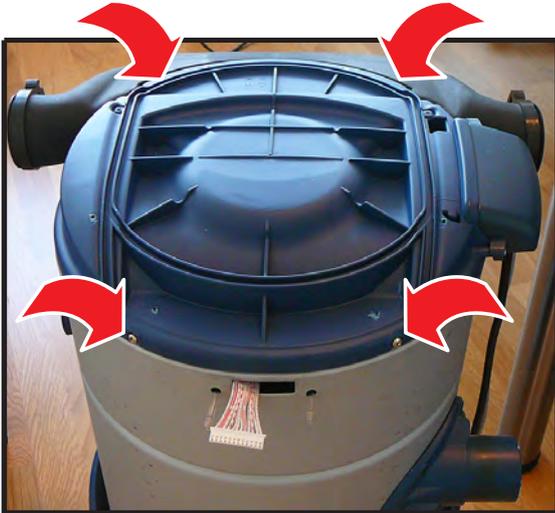


# MOTOR MAINTENANCE

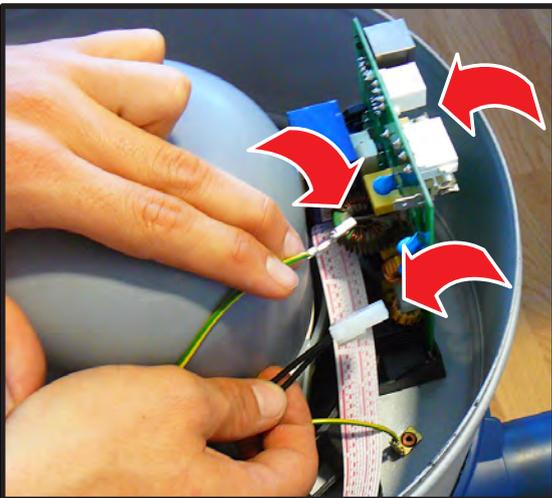
## FOR ALL CENTRAL POWER UNIT MODELS 1 AND 2

Disconnect the power supply line and socket line connectors and remove the front casing as indicated in the power card maintenance sequence.

1 - open the motor compartment unscrewing the 4 screws.



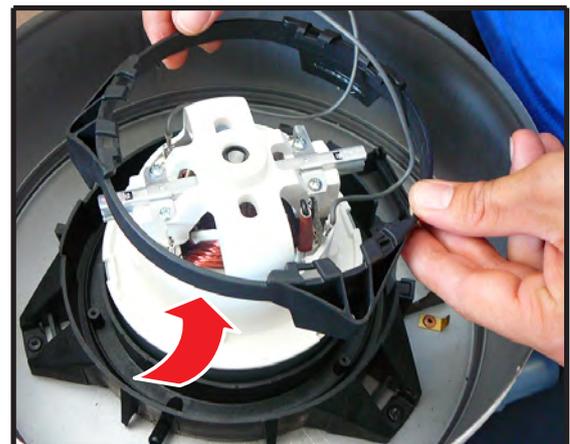
2 - disconnect the motor-card connector and remove the power card.



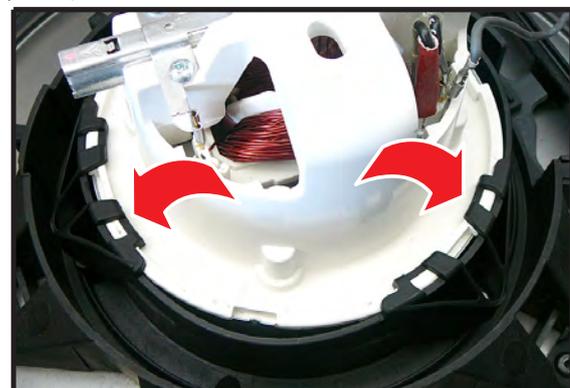
3 - unscrew the 3 motor fixing screws.



4 - remove the motor fixing ring and replace the motor.

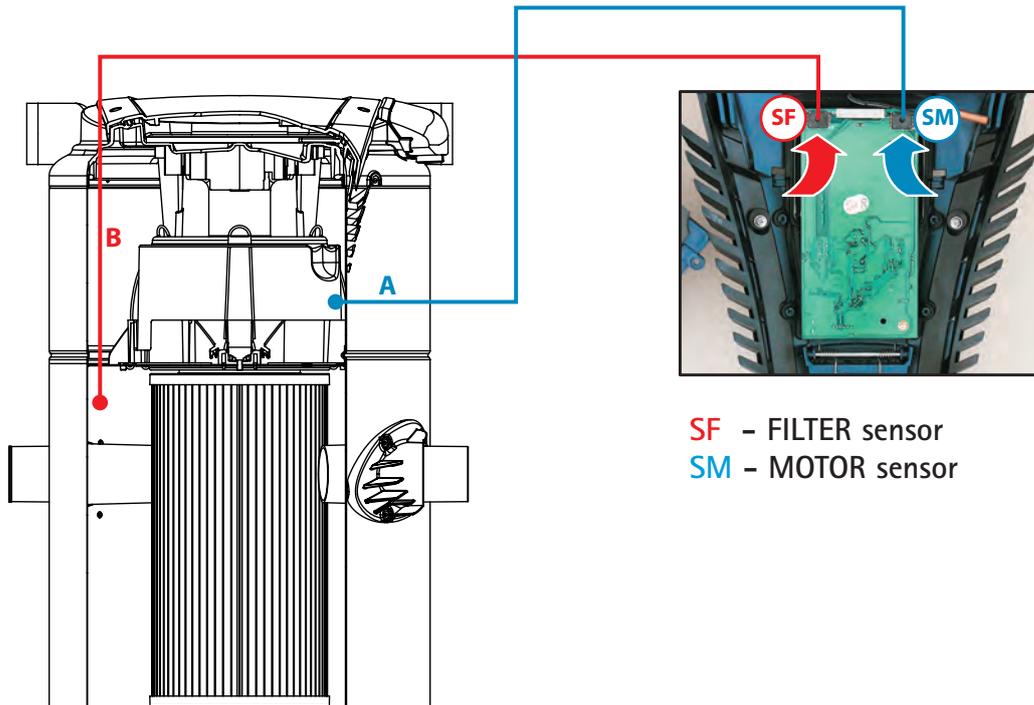


5 - insert the fixing ring so that the centring supports enter the appropriate joints.



# MOTOR AND FILTER VACUUM SENSOR MAINTENANCE

for PERFETTO TXA, TPA and TP central power units



## PROBLEM E.50 MOTOR VACUUM SENSOR

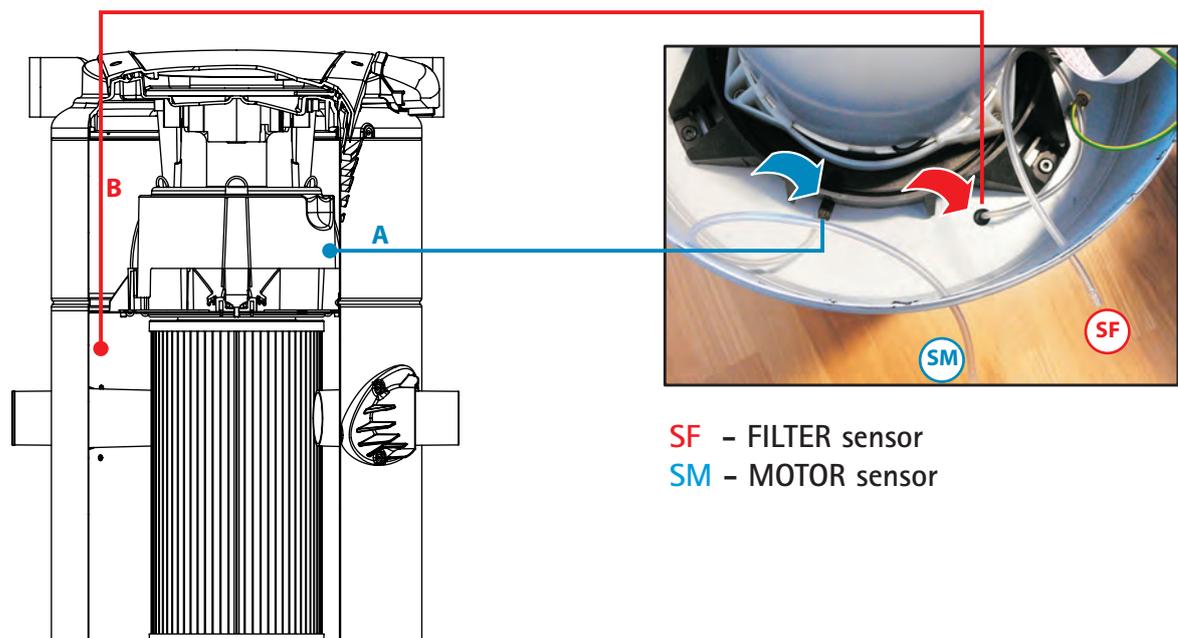
The problem may be due to:

- a defective motor sensor (SM)
- the connection pipe (A) between the motor and motor sensor that is not connected correctly or that is broken or crushed.

## FILTER LOCK PROBLEM

The problem may be due to:

- a defective filter sensor (SF)
- the connection pipe (B) between the filter chamber and the filter sensor that was not inserted correctly or is broken or crushed.



# APF SYSTEM - FILTER SELF-CLEANING

## GENERAL CONCEPTS

### OPERATING PRINCIPLE

The APF System is a mechanical filter cartridge cleaning system.

The air that is vacuumed when the central power unit is operating is directed inside the APF system's containment chamber where a fan is housed.

The rotary fan movement activates a shaking pivot on which a steel spring and a rubber beater are mounted.

The vibration and the impact of the beater on the inner filter cartridge chamber causes the dust to detach from the walls.

The PERFETTO central power unit has sensors that detect the degree of filter cartridge saturation, which is shown on the control panel display.

### ACTIVATION

The APF system is activated automatically when the central power unit is operating by the vacuumed air: a greater amount of introduced air makes the self-cleaning more effective.

The APF system turns off automatically when the central power unit is turned off.

### APF IN OPERATION

When the self-cleaning system is operating you can detect a slight vibration generated by the impact of the beater on the inner filter cartridge chamber.

### APF MALFUNCTION OR FAULT

An APF system malfunction or fault does not interfere with the vacuuming phase of the central power unit, therefore the system can continue to vacuum dust without becoming less effective.

If the APF system breaks, the filter cartridge will become saturated in a shorter period of time.



## ORDINARY MAINTENANCE

### TEST OF PROPER OPERATION

Turn on the central power unit with the START button on the control panel.

Open the vacuum socket built into the central power unit instrument panel: the more air that is introduced into the containment chamber will make the self-cleaning system more effective.

If you place your ear near the central power unit, you will detect the vibration generated from the impact of the beater on the inner filter cartridge chamber.

In this case, the APF system is operating regularly.

### CHECKING FILTER CARTRIDGE INTEGRITY

Check that the inner filter cartridge is not broken or deformed due to the impacts from the beater.

In this case the damaged cartridge must be replaced with a new one.

## VISUAL TEST OF THE APF SYSTEM WITH THE CENTRAL POWER UNIT TURNED OFF

 THESE OPERATIONS MUST ONLY BE PERFORMED BY AN AUTHORISED SERVICE CENTRE

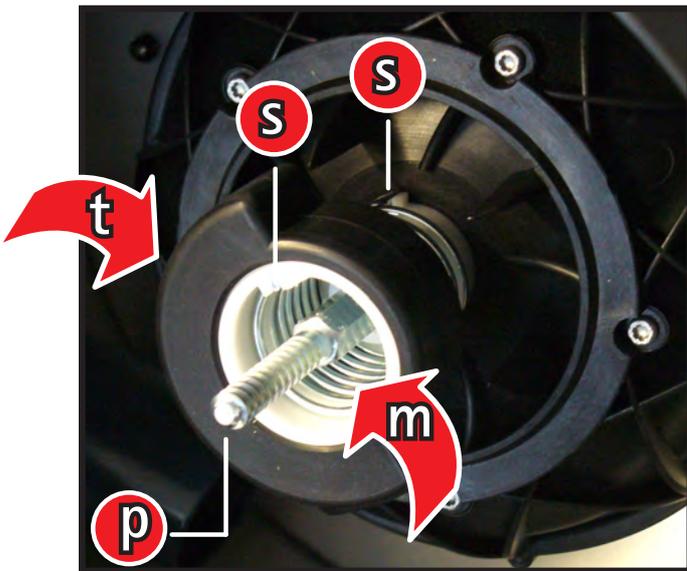
### ATTENTION

 **ELETRICAL DANGER**  
DISCONNECT THE POWER SUPPLY FROM THE CENTRAL POWER UNIT BEFORE PROCEEDING WITH THIS OPERATION

1 - Open the dust container and remove the filter cartridge from the central point unit.

2 - Check:

- that the beater (t) is intact and in its seat.
- that the spring (m) is fixed correctly in the seats (s).
- that the beater and the spring rotate regularly and correctly around the central pivot (p).



### SOLUTIONS

- A - if the beater is not in its housing, return it to its seat.
- B - if the beater is broken or very worn, replace it with a new one.
- C - if the spring is out of its housing, return it to its seat.
- D - if the spring is malfunctioning, replace it with a new one.
- E - if the beater or spring rotation is blocked, call AERTECNICA.

## VISUAL TEST OF THE APF SYSTEM WITH THE CENTRAL POWER UNIT TURNED ON

 THESE OPERATIONS MUST ONLY BE PERFORMED BY AN AUTHORISED SERVICE CENTRE

### ATTENTION

 **ELETRICAL DANGER**  
THE CENTRAL POWER UNIT IS POWERED WITH ELECTRIC CURRENT.

 **HAZARD OF FINGER CRUSHING**  
CARRY OUT THIS OPERATION WITH GREAT CARE

1 - Open the dust container and remove the filter cartridge from the central point unit.

2 - Start the central power unit by pressing the START key on the control panel.

### ATTENTION

 **HAZARD OF CENTRAL POWER UNIT DAMAGE**  
DO NOT PLACE ANY OBJECT INSIDE THE FILTER COMPARTMENT WHILE THE APF SYSTEM IS OPERATING



3 - Check with a test lasting a few seconds that the beater and spring rotate regularly and correctly around the central pivot.

**CASE A** - if the APF operates regularly, the test is concluded positively. Reinstall the filter cartridge and close the dust container.

**CASE B** - if the APF does not operate regularly, check if the problem is due to one of the causes listed above and solve it as described. If the malfunction cause is not listed, contact Aertecnica.

**FOR OTHER MALFUNCTION CAUSES THAT ARE NOT LISTED,  
CALL AERTECNICA**

# CENTRAL POWER UNIT INSPECTION

The general centralised vacuum system inspection must be done after the final assembly of all vacuum sockets and the selected central power unit

## TXA, TPA AND TP CENTRAL POWER UNIT INSPECTION

### CHECK 1

Activate the central power unit with all sockets closed by pressing the START button on the control panel. The display will show the maximum vacuum level reached by the central power unit, which will stop automatically after 15 seconds. Note the value that was reached (value 1).

Disconnect the tubing from the central power unit and place a cap on the central power unit inlet.

Reactivate the central power unit and note the value that was reached (value 2) indicated on the display.

Check that the difference between values 2 and 1 does not exceed 15 mbar.

If the value is higher, this means that there are leaks that must be found and repaired.

### CHECK 2

Compare value 2 with the vacuum value indicated in the technical features table for the central power unit model that was purchased.

Check that the difference between the two values does not exceed 10% of the table value.

If the value is higher, contact the Aertecnica Service Centre.

### NOTE

The values indicated in the table refer to a power supply voltage of 240 V at 50 Hz. If the mains voltage is less, use the following formula: every 10 volt = 10 mbar (example with the TP1 central power unit: 270 mbar at 240 V = 250 mbar at 220 V).

### VACUUM TEST

After performing the previously described tests Check 1 and Check 2, proceed with the test.

Insert a 7 - 9 metre hose in one of the sockets closest to the central power unit, let it vacuum freely and check the value on the central power unit display.

If the value is correct, the OK icon will appear (range 90 – 170 mbar).

If the value is low, the LO icon will appear (value below 90 mbar).

If the value is high, the HI icon will appear (value above 170 mbar).

Repeat the same operation in an intermediate system socket and then in one of the sockets furthest from the central power unit.

The test is positive if, on the tested sockets, the vacuum value remains within the correct operating range (OK icon).

If the vacuum threshold is exceeded (HI icon), check for system clogging.

If the value is below the vacuum threshold (LO icon), check for system leaks.

### IMPORTANT

Check, inserting the accessories in the hose, for example the crevice nozzle, code AP342, that the lock threshold of 220mbar is not reached due to high vacuum (value set with parameter 48 in the Operating Parameters menu).

If the system pressure exceeds the lock threshold, the HI icon will start to flash.

If the pressure remains high for more than 15 seconds, the central power unit will be locked due to high vacuum.

If this problem occurs, check:

- probable system clogging
- incorrect accessory use
- worn accessory
- length of the tubing from the central power unit to the utilised socket

(see the Anomaly and lock table PERFETTO TXA, TPA and TP central power units)

# CENTRAL POWER UNIT INSPECTION

The general centralised vacuum system inspection must be done after the final assembly of all vacuum sockets and the selected central power unit.

## CLASSIC TC CENTRAL POWER UNIT INSPECTION

### CHECK 1

Activate the central power unit with all sockets closed, jumpering the 12V socket line.

Inserting the vacuum gauge in the dust inlet that is not used or in any vacuum socket, check the vacuum value obtained by the central power unit, which will stop automatically after 15 seconds. Note the value that was reached (value 1).

Disconnect the tubing from the central power unit and insert a vacuum gauge in its place. Activate the central power unit jumpering the 12V socket cable line; check the vacuum value obtained by the central power unit, which will stop automatically after 15 seconds. Note the value that was reached (value 2).

Check that the difference between values 2 and 1 does not exceed 15 mbar.

If the value is higher, this means that there are leaks that must be found and repaired.

### CHECK 2

Compare value 2 with the vacuum value indicated in the technical features table for the central power unit model that was purchased.

Check that the difference between the two values does not exceed 10% of the table value.

If the value is higher, contact the Aertecnica Service Center.

### NOTE

the values indicated in the table refer to a power supply voltage of 240 V at 50 Hz. If the mains voltage is less, use the following formula: every 10 volt = 10 mbar (example with the TP1 central power unit: 270 mbar at 240 V = 250 mbar at 220 V).

### VACUUM TEST

After performing the previously described tests Check 1 and Check 2, proceed with the test.

Insert a 7 - 9 metre hose in one of the sockets closest to the central power unit.

Using a vacuum gauge (AT010) inserted in another nearby socket, control the obtained value and take note of it.

Repeat the same operation in an intermediate system socket and then in one of the sockets furthest from the central power unit, taking note of the reached values.

The result will be positive if the value indicated on the vacuum gauge on the tested sockets lies within an operating range between 100 and 150 mbar (green area).

If in one or more of the tested sockets the value is above 150 mbar or below 100 mbar, check for system clogging.

### IMPORTANT

Check, inserting the accessories in the hose, for example the crevice nozzle, code AP342, that the lock threshold of 220mbar is not reached due to high vacuum.

If the system pressure exceeds the lock threshold, the ON light will start to flash.

If the pressure remains high for more than 15 seconds, the central power unit will be locked due to high vacuum.

If this problem occurs, check:

- probable system clogging
- incorrect accessory use
- worn accessory
- length of the tubing from the central power unit to the utilised socket

(see the Anomaly and lock table CLASSIC TC central power units)

# TROUBLESHOOTING

for PERFETTO TXA, TPA and TP central power units

PROBLEM	CAUSE	INTERVENTION	
There is no air intake from all the sockets	Power supply cable disconnected	Connect the power supply cable	
	12V socket cable line not connected or incorrectly connected	Connect the 12V socket cable line or check the wiring	
	The number of consecutive central power unit starts within a period of 1 minute was exceeded		Check the electric connection on each socket. Press RESET to reset operation
			The electric contacts in the hose are dirty. Clean them as indicated in the accessory instructions. Press RESET to reset operation
	The maximum amount of time of continuous central power use has been exceeded		The microswitch in a vacuum socket is damaged. Call a specialised technician.
			The system remained on inadvertently for 30 consecutive minutes. Press RESET or turn the system off and on to reset operation
			Check the electric connection of the 12V socket cable line. Call a specialised technician.
	The motor overheated. The motor temperature exceeded 80 °C.		Check if the air exhaust line is free or if two air exhaust openings are blocked. Wait for the motor to cool down. Press RESET to reset operation
			Make sure the filter cartridge is not saturated. In this case, perform maintenance. Wait for the motor to cool down. Press RESET to reset operation
	The vacuum exceeded 200 mbar for more than 15 seconds		The hose inlet is obstructed. Free the hose, turn the system on and off and press RESET
The dust container is not correctly hooked		Rehook the container correctly.	
There is no air intake from a socket	The microswitch or the electric contacts in a vacuum socket are damaged.	Call a specialised technician.	

PROBLEM	CAUSE	INTERVENTION
Low amount of air intake	There is clogging in the system	Call a specialised technician.
	The filter cartridge is saturated	Perform cartridge maintenance. Press RESET to reset operation.
	Multiple vacuum sockets are being used at the same time on the system	The central power unit may only be used by one operator at a time.
	The dust container gasket is damaged or out of position	Check the position of the dust container gasket.
	The air exhaust line is clogged	Check if the air exhaust line is free or if two air exhaust openings are blocked.
	The hose is partially obstructed.	Free the obstruction from the hose.
	The cap was not inserted correctly into the dust inlet not being used in the central power unit	Check that the dust inlet that is not being used is closed with the special cap.
	The built-in vacuum socket is damaged	Call a specialised technician.
The central power unit always remains activated even with the sockets closed	The microswitch or the electric contacts in a vacuum socket are damaged.	Call a specialised technician.
The AVI display remains off	The central power unit power supply cable is disconnected	Connect the power supply cable.
	The protective fuse burnt out.	Call a specialised technician.
	The electronic card is defective.	Call a specialised technician.
<b>Call a specialised technician for other causes that are not covered in this manual</b>		

# TROUBLESHOOTING

for CLASSIC TC central power units

PROBLEM	CAUSE	INTERVENTION
There is no air intake from all the sockets	Power supply cable disconnected	Connect the power supply cable
	12V socket cable line not connected or incorrectly connected	Connect the 12V socket cable line or check the wiring
	The motor overheated. The motor temperature exceeded 80 °C.	Check if the air exhaust line is free or if two air exhaust openings are blocked. Wait for the motor to cool down. Press RESET to reset operation
		Make sure the filter cartridge is not saturated. In this case, perform maintenance. Wait for the motor to cool down. Press RESET to reset operation
	The dust container is not correctly hooked	Rehook the container correctly.
There is no air intake from a socket	The microswitch or the electric contacts in a vacuum socket are damaged.	Call a specialised technician.
Low amount of air intake	There is clogging in the system	Call a specialised technician.
	The filter cartridge is saturated	Perform cartridge maintenance. Press RESET to reset operation.
	Multiple vacuum sockets are being used at the same time on the system	The central power unit may only be used by one operator at a time.
	The dust container gasket is damaged or out of position	Check the position of the dust container gasket.
	The air exhaust line is clogged	Check if the air exhaust line is free or if two air exhaust openings are blocked.
	The hose is partially obstructed.	Free the obstruction from the hose.
	The cap was not inserted correctly into the dust inlet not being used in the central power unit	Check that the dust inlet that is not being used is closed with the special cap.
The central power unit always remains activated even with the sockets closed	The microswitch or the electric contacts in a vacuum socket are damaged.	Call a specialised technician.
The AVT panel remains off	The central power unit power supply cable is disconnected	Connect the power supply cable.
	The protective fuse burnt out.	Call a specialised technician.
	The electronic card is defective.	Call a specialised technician.
<b>Call a specialised technician for other causes that are not covered in this manual</b>		

**SERVICE MANUAL  
FOR MONO-PHASE POWER UNITS**

**EXPLODES VIEWS**

**PERFETTO INOX TXA**

**MODELS: TX1A - TX2A - TX3A - TX4A**

**PERFETTO TPA**

**MODELS: TP1A - TP2A - TP3A - TP4A**

**PERFETTO TP**

**MODELS: TP1 - TP2 - TP3 - TP4**

**CLASSIC TC**

**MODELS: TC1 - TC2 - TC3 - TC4**

# VACUUM UNITS EXPLODED VIEW

## Exploded views index

### PERFETTO INOX TXA LINE

#### 50 **TX1A POWER UNIT**

50 General assembly

51 Complete groups

#### 52 **TX2A POWER UNIT**

52 General assembly

53 Complete groups

#### 54 **TX3A POWER UNIT**

54 General assembly

55 Complete groups

#### 56 **TX4A POWER UNIT**

56 General assembly

57 Complete groups

### PERFETTO TPA LINE

#### 58 **TP1A POWER UNIT**

58 General assembly

59 Complete groups

#### 60 **TP2A POWER UNIT**

60 General assembly

61 Complete groups

#### 62 **TP3A POWER UNIT**

62 General assembly

63 Complete groups

#### 64 **TP4A POWER UNIT**

64 General assembly

65 Gruppi completi

### PERFETTO TP LINE

#### 66 **TP1 POWER UNIT**

66 General assembly

67 Gruppi completi

#### 68 **TP2 POWER UNIT**

68 General assembly

69 Gruppi completi

#### 70 **TP3 POWER UNIT**

70 General assembly

71 Gruppi completi

#### 72 **TP4 POWER UNIT**

72 General assembly

73 Complete groups

### CLASSIC TC LINE

#### 74 **TC1 POWER UNIT**

74 General assembly

75 Complete groups

#### 76 **TC2 POWER UNIT**

76 General assembly

77 Complete groups

#### 78 **TC3 POWER UNIT**

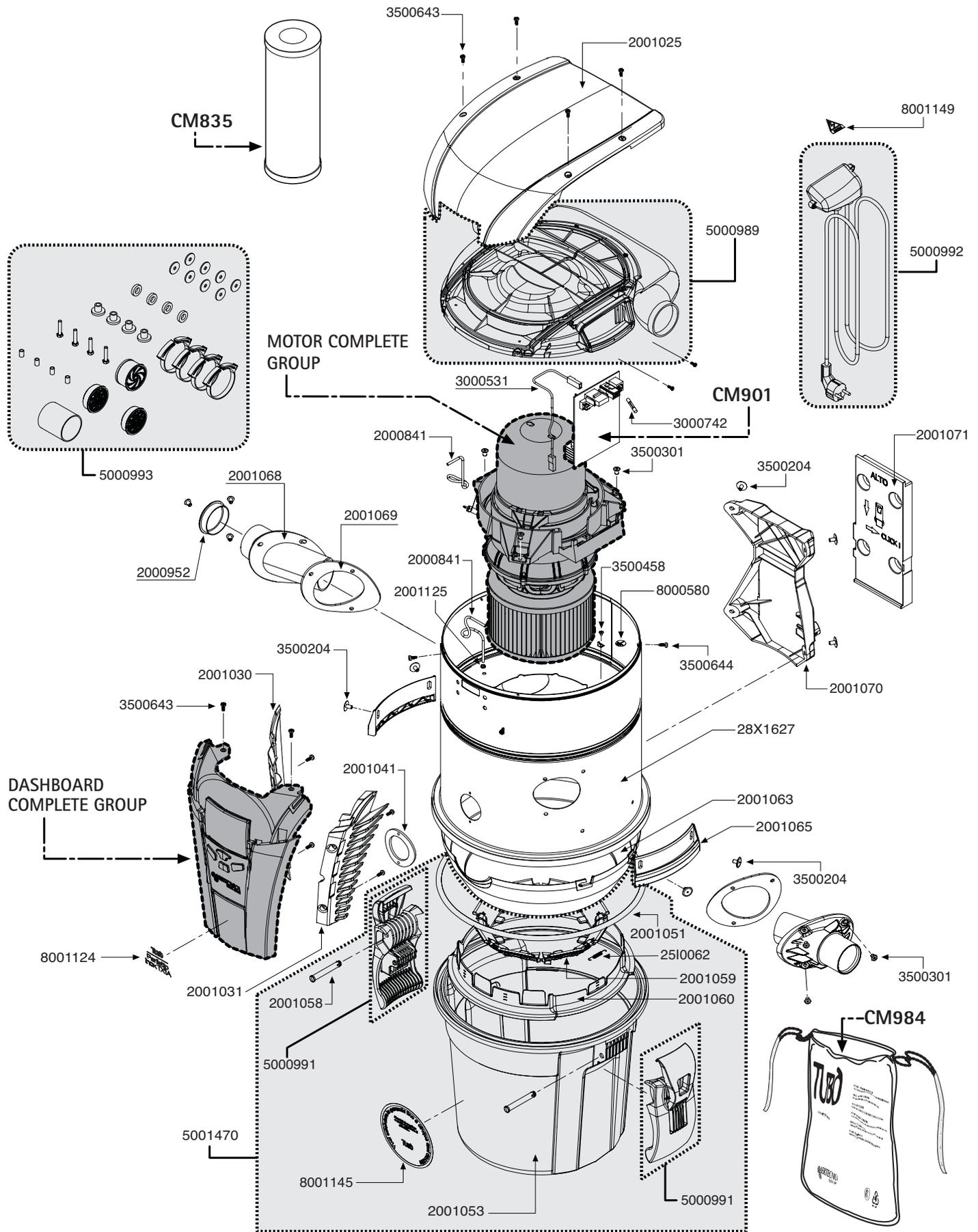
78 General assembly

79 Complete groups

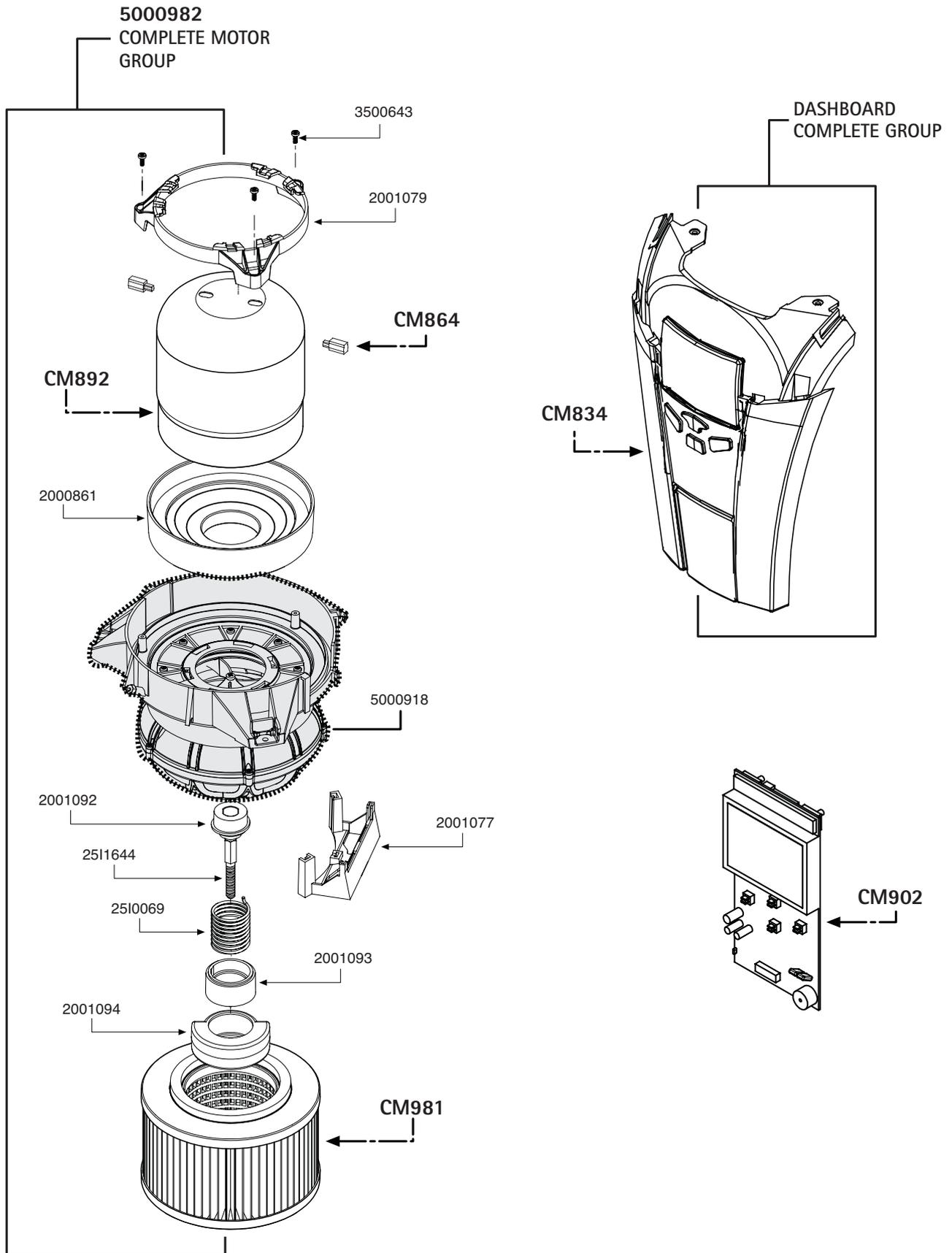
#### 80 **TC4 POWER UNIT**

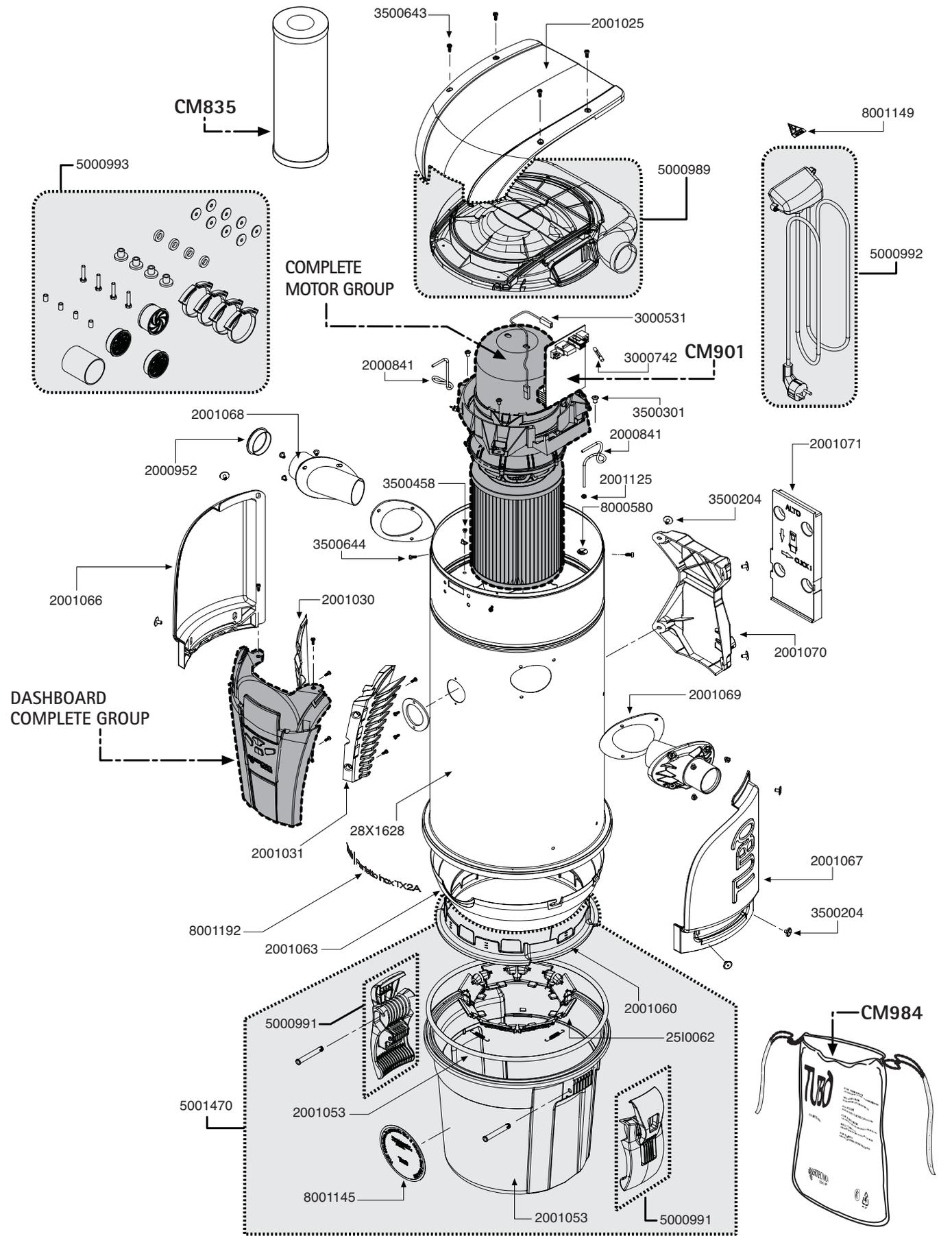
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81 Complete groups

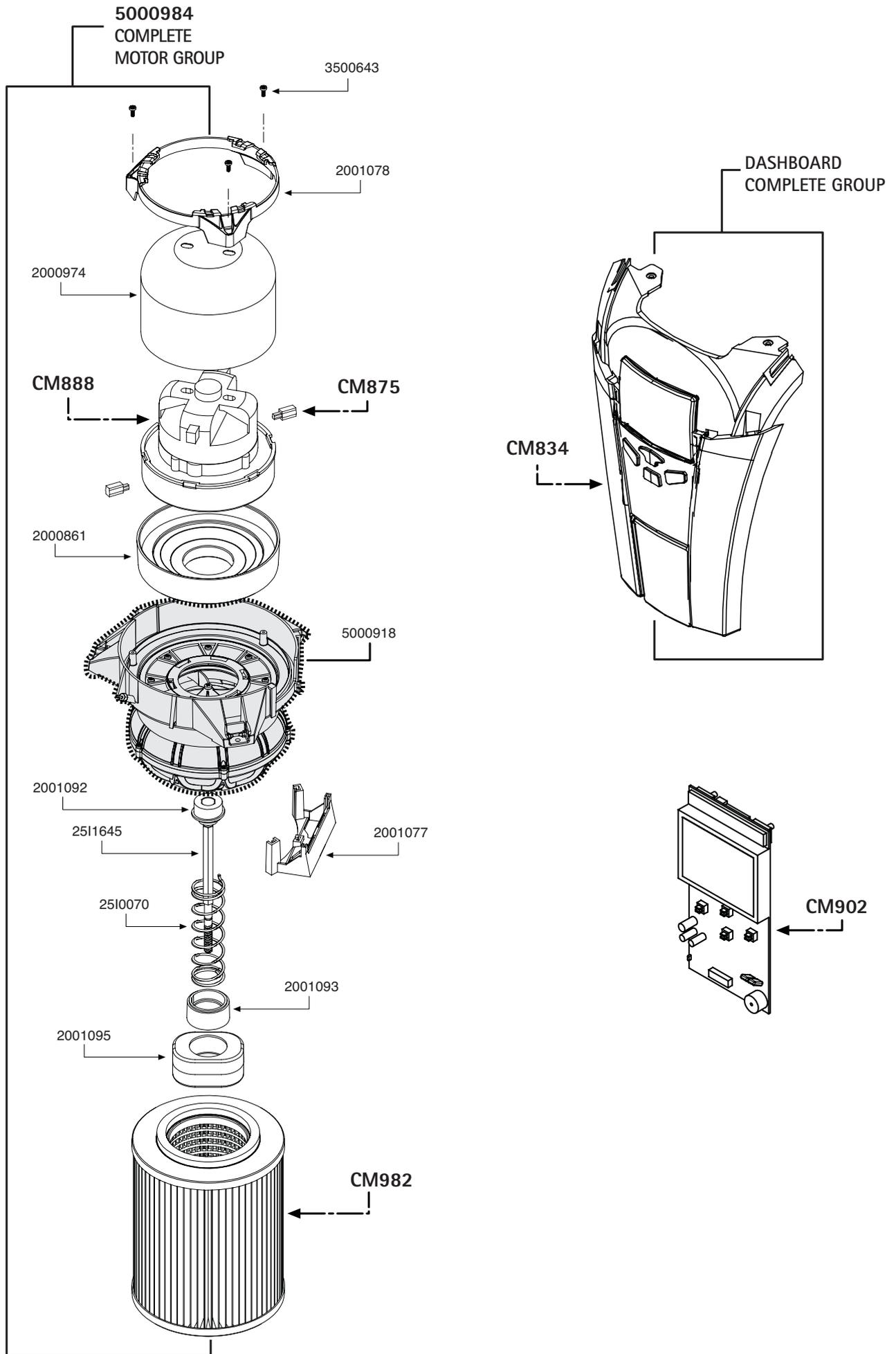


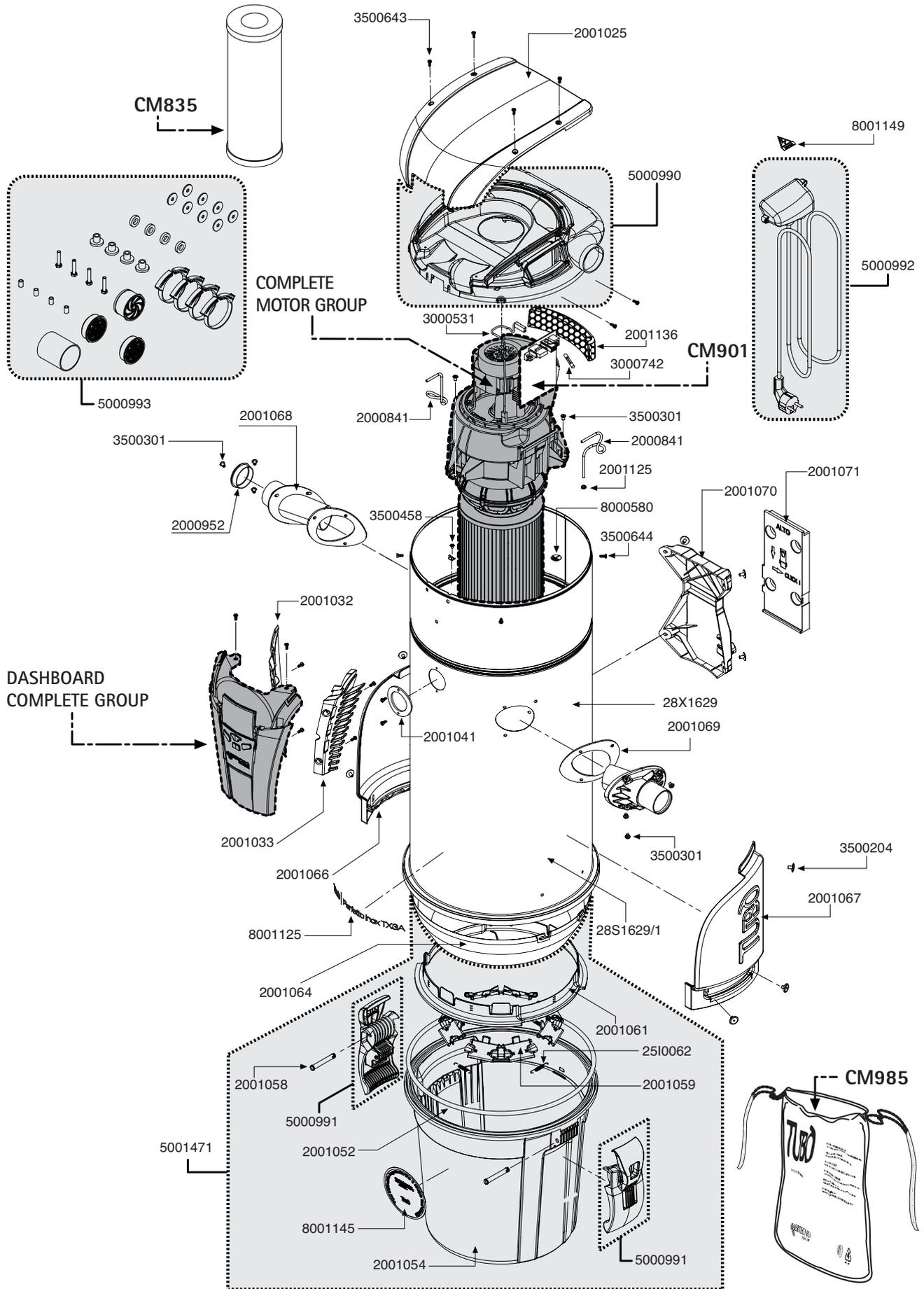
- ASSEMBLY WITH SINGLE CODE
- COMPLETE GROUPS - SEE TAB. 02
- CM985** SINGLE ITEM SPARE PART





- ASSEMBLY WITH SINGLE CODE
- COMPLETE GROUPS - SEE TAB. 04
- CM985** SINGLE ITEM SPARE PART





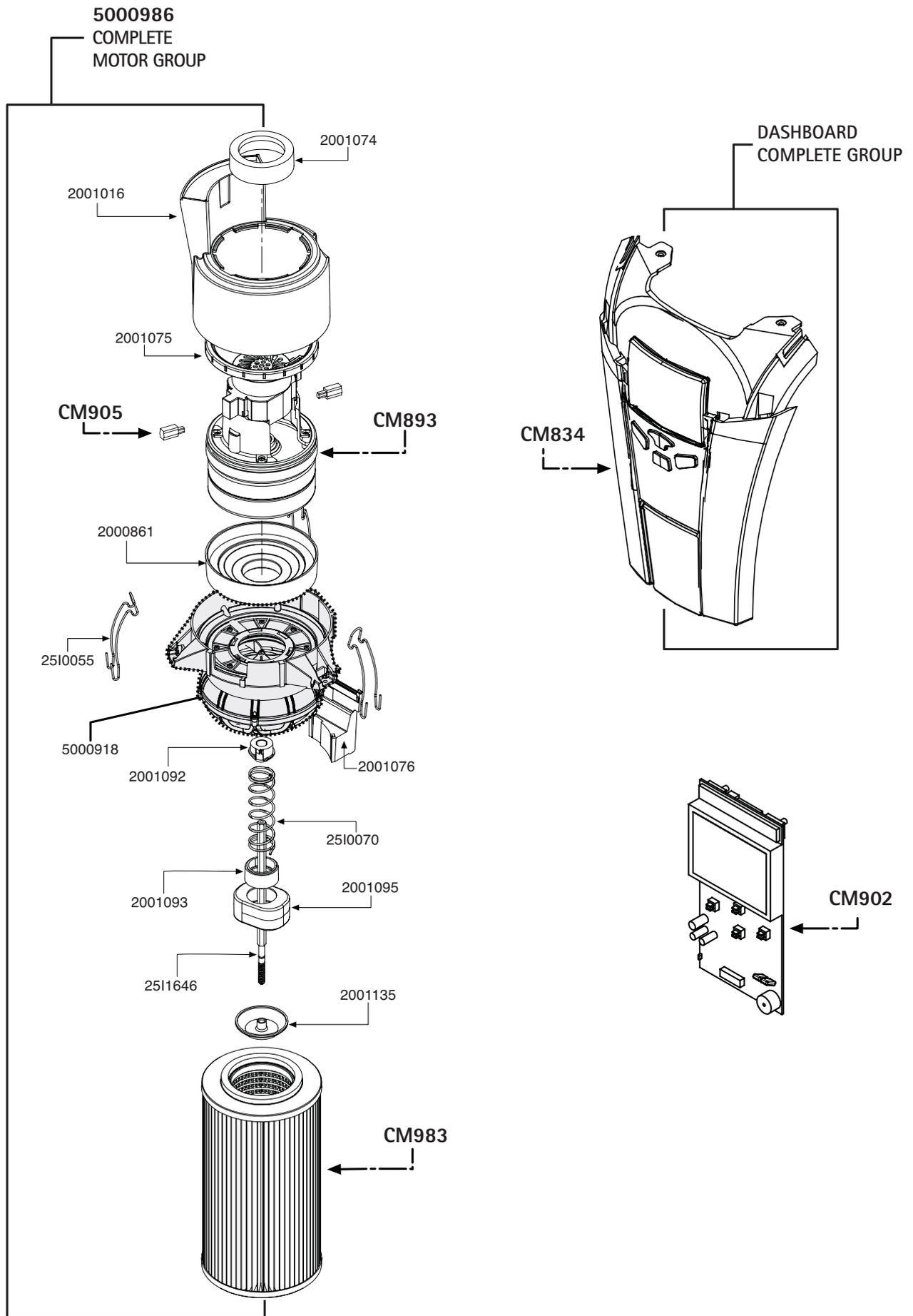
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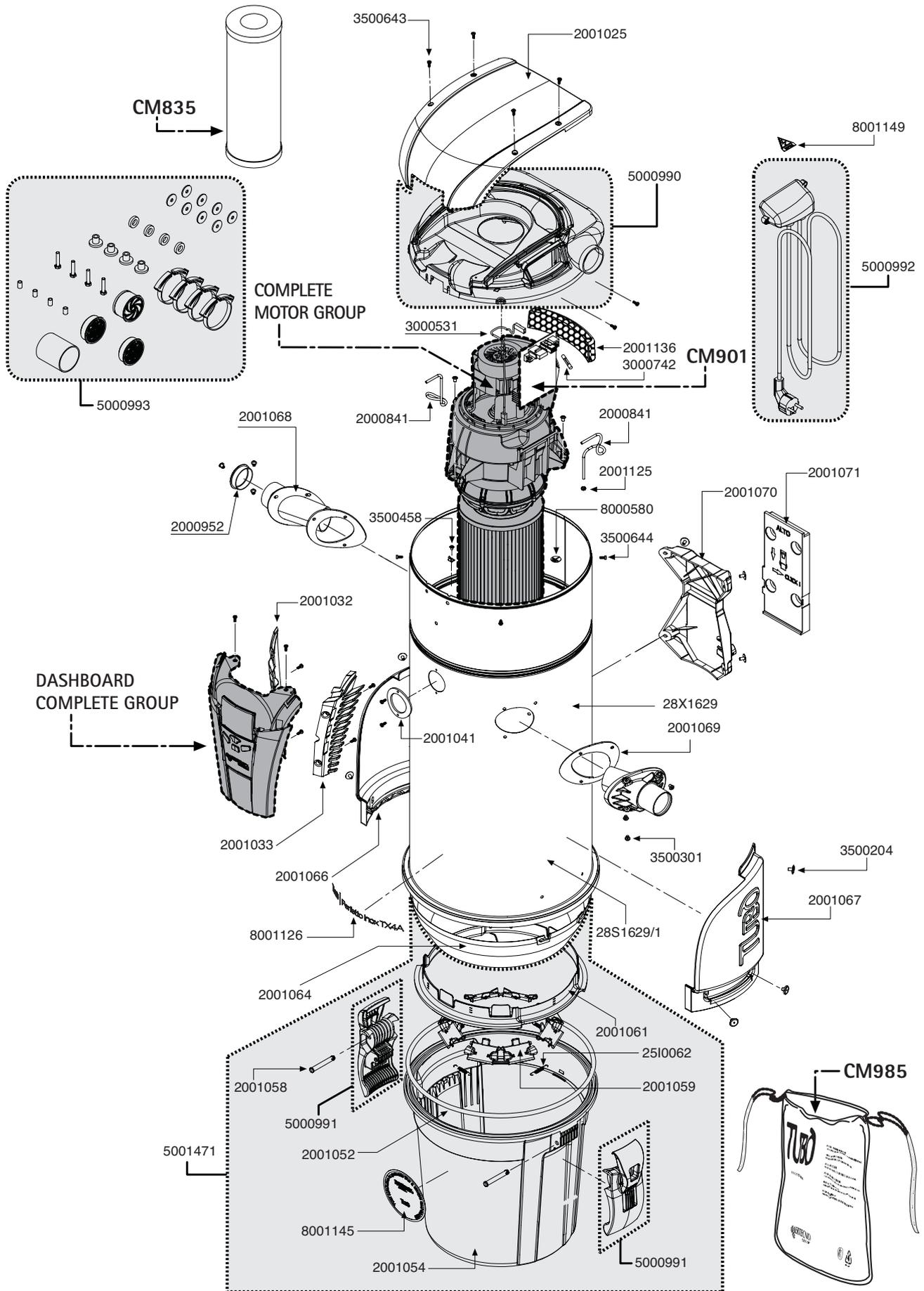


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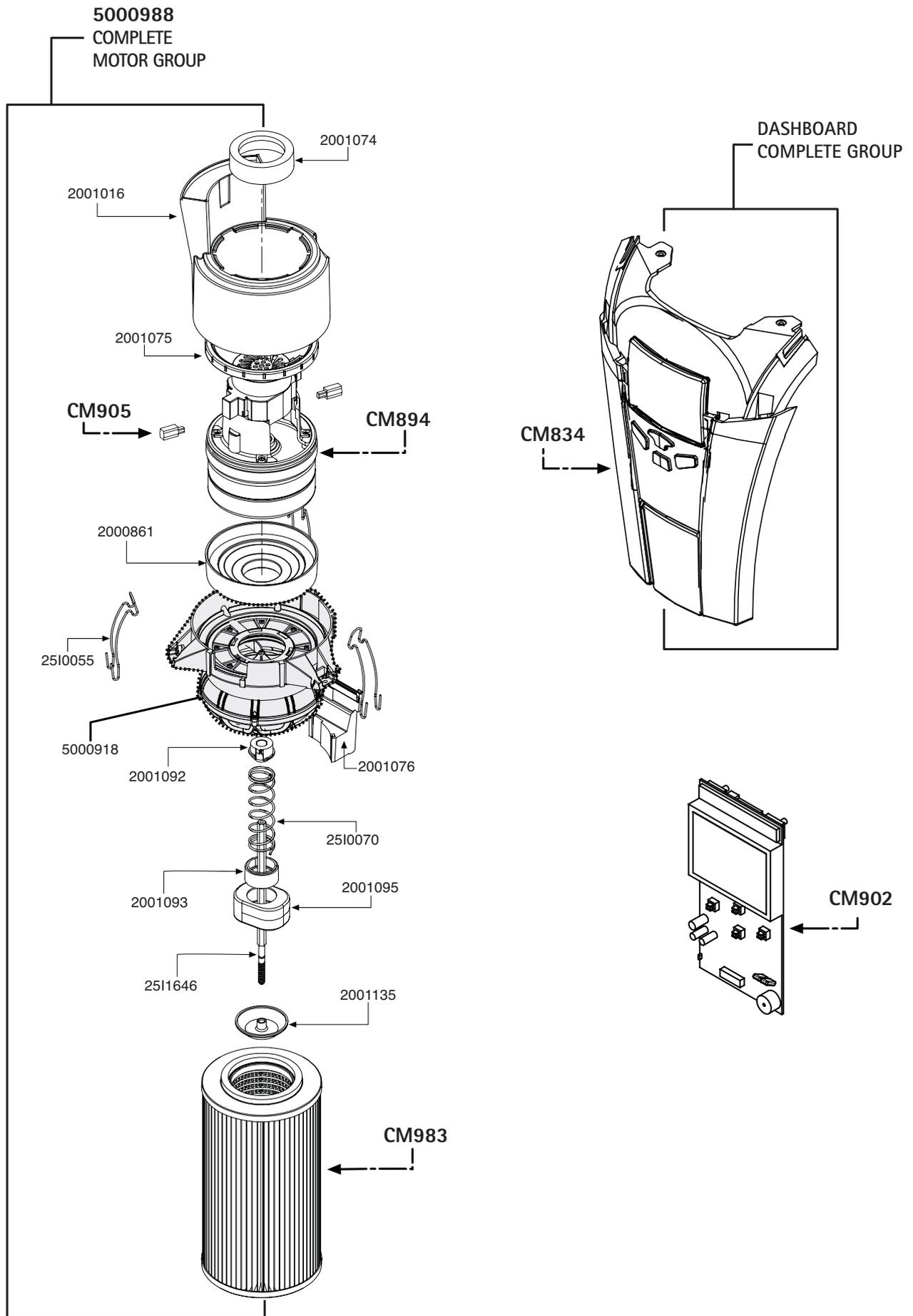
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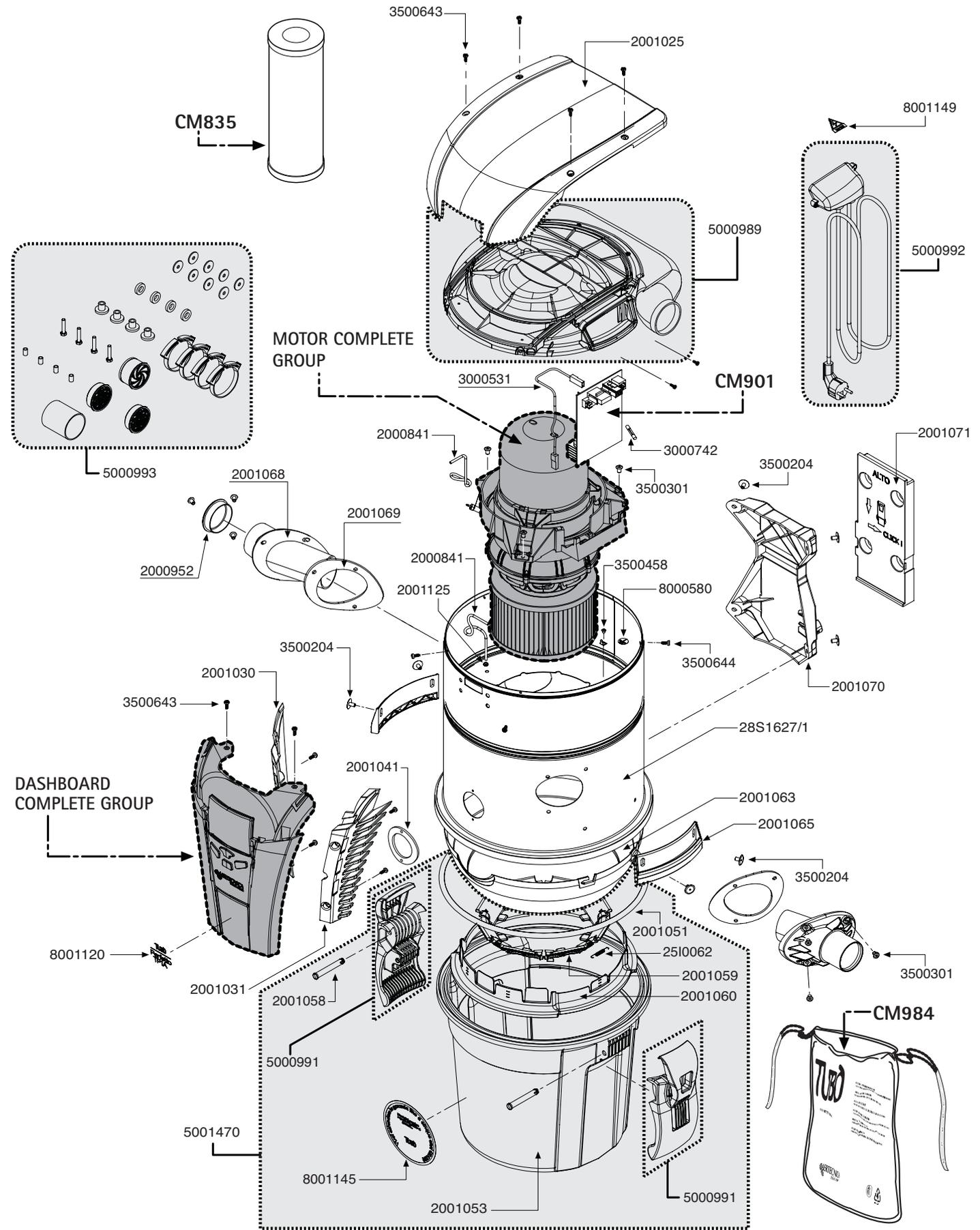
SINGLE ITEM SPARE PART



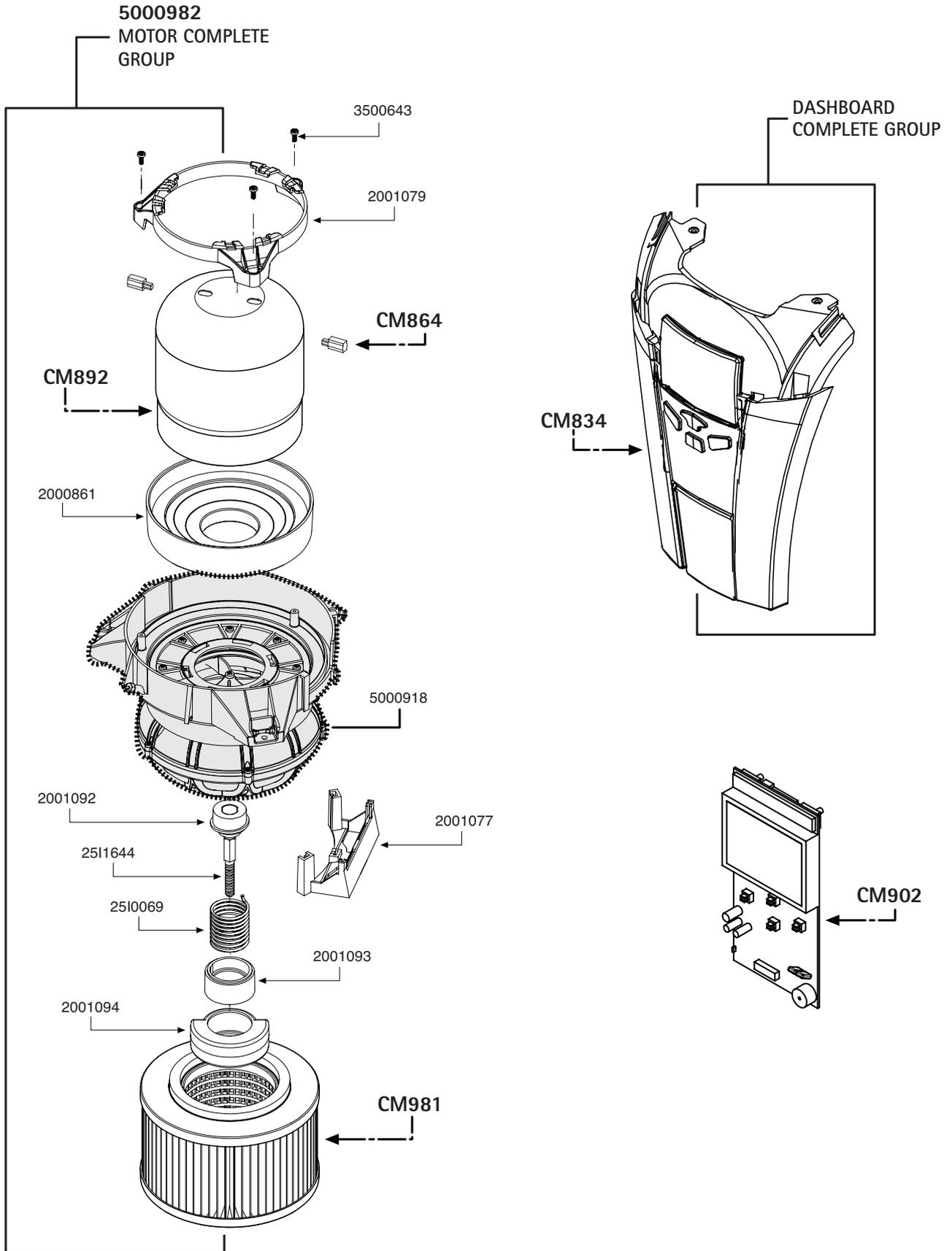


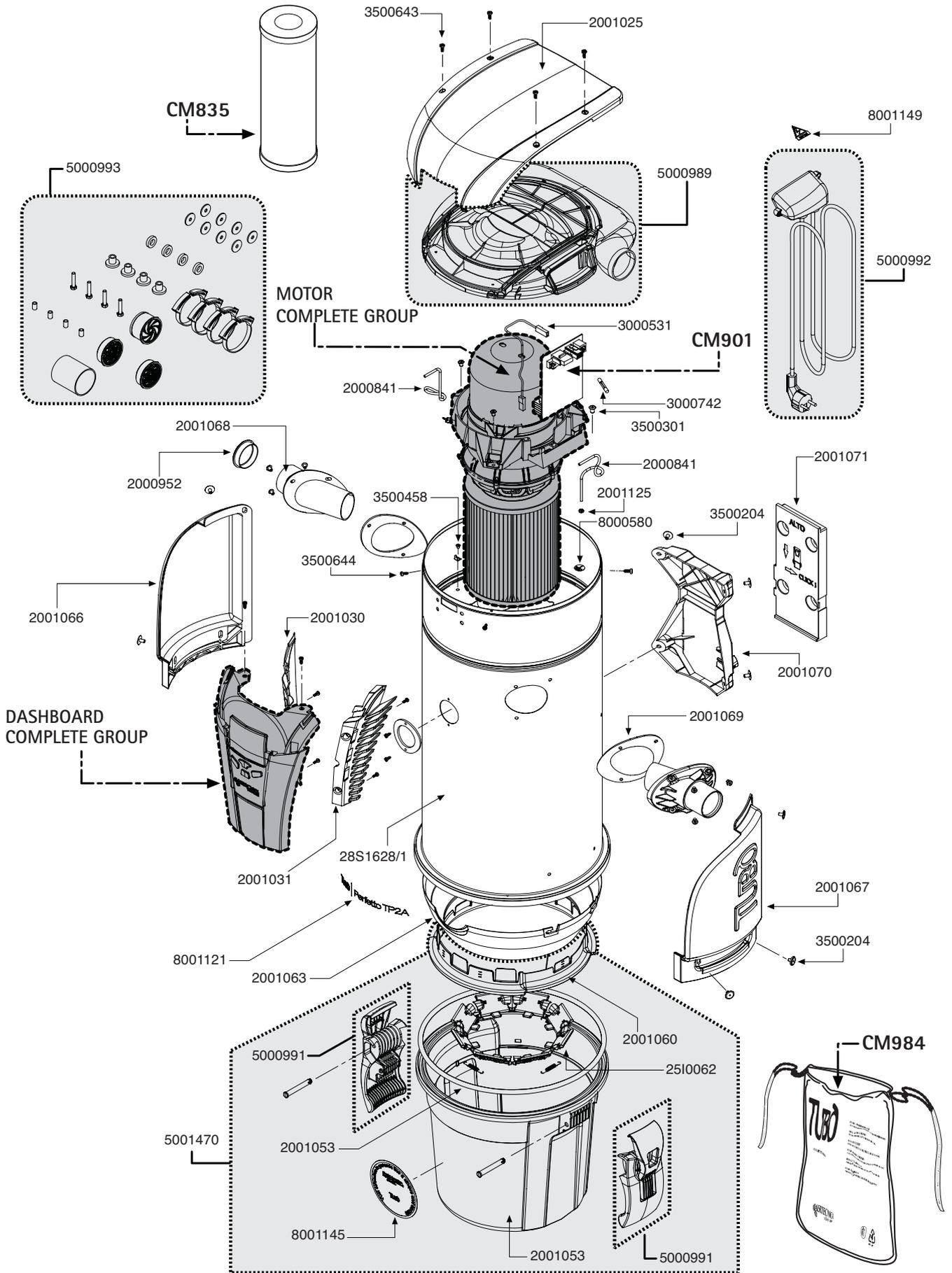
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- CM985** SINGLE ITEM SPARE PART



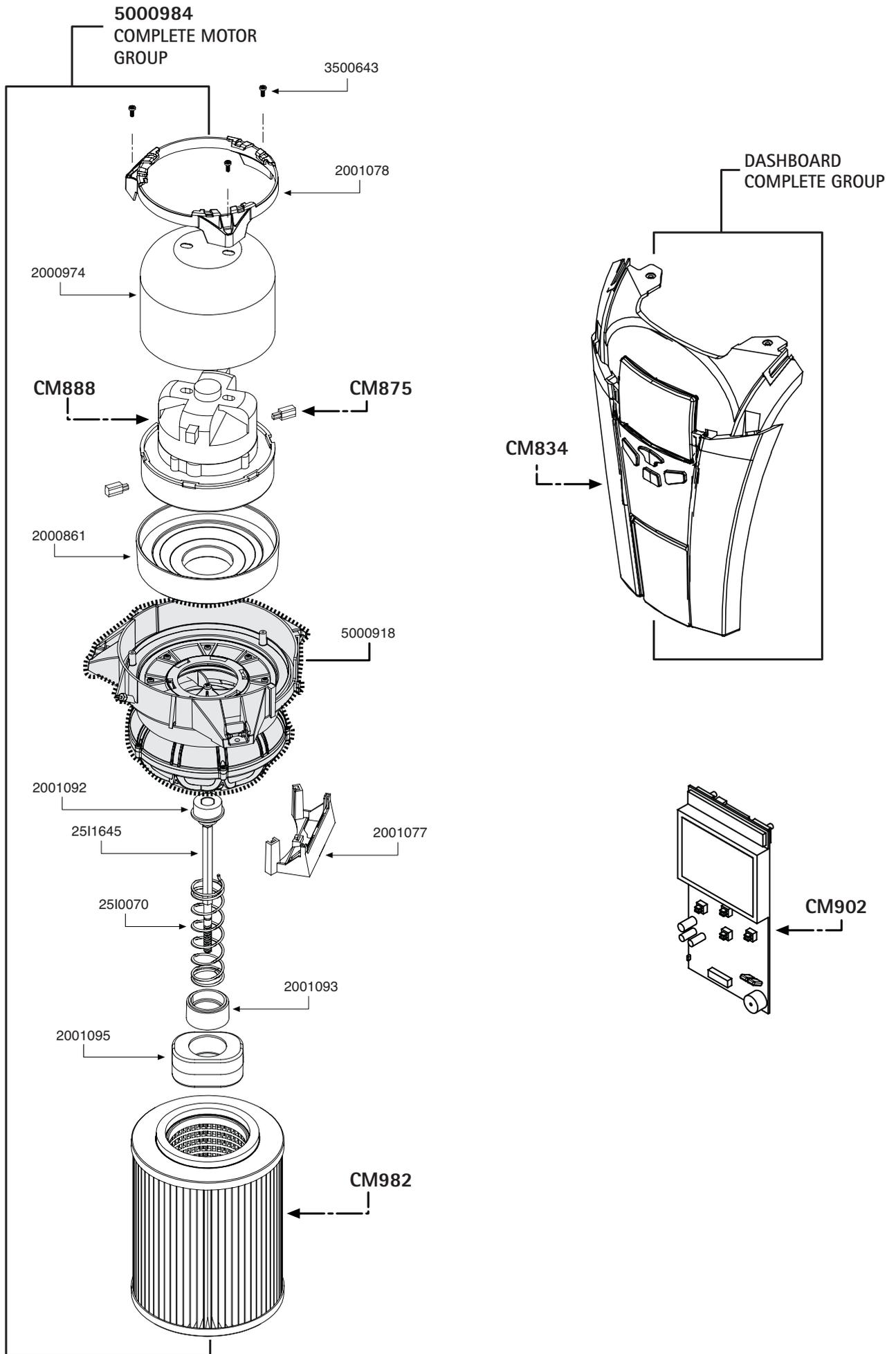


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- COMPLETE GROUPS - SEE TAB. 10
- CM985** SINGLE ITEM SPARE PART

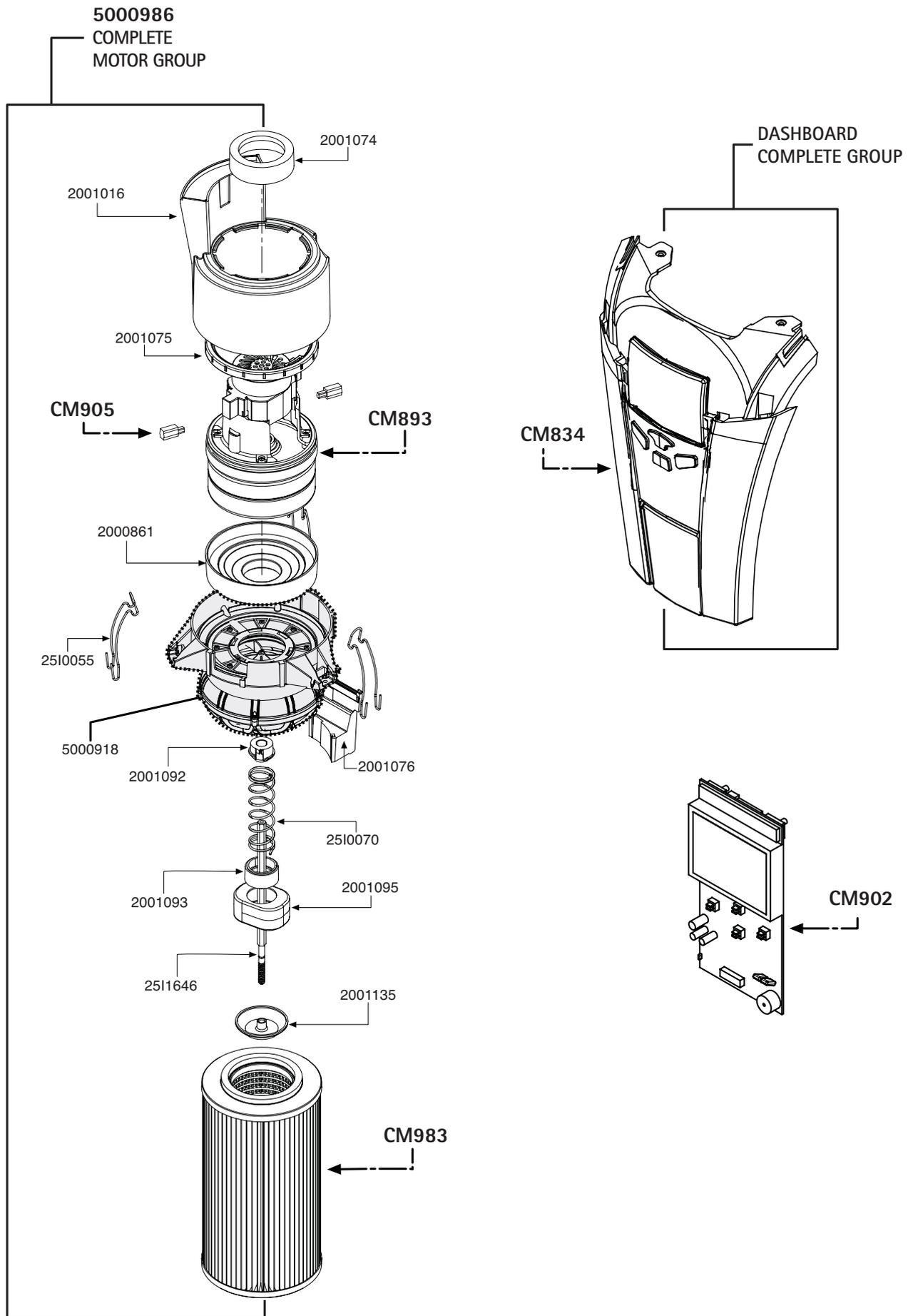


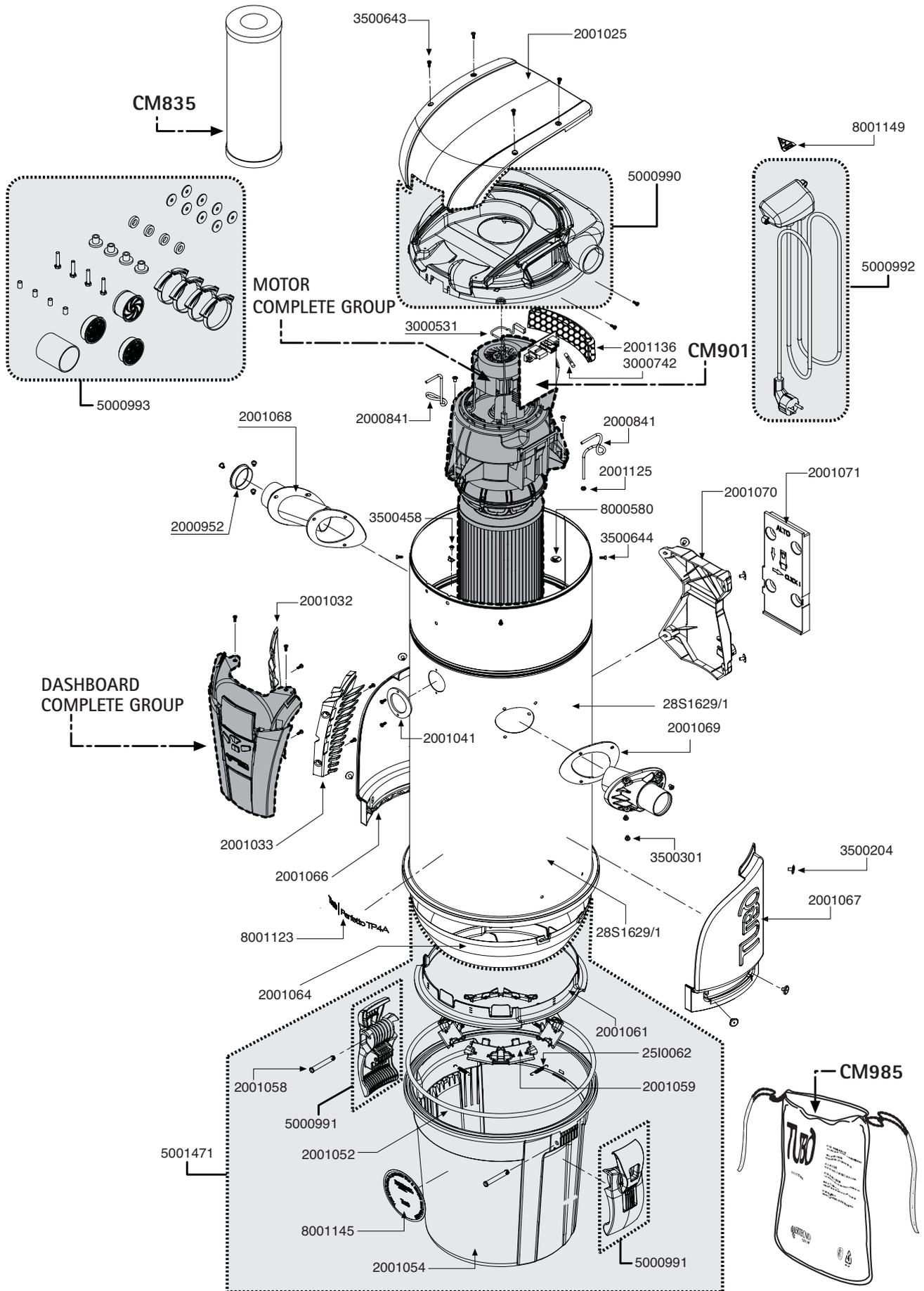


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- CM985** SINGLE ITEM SPARE PART

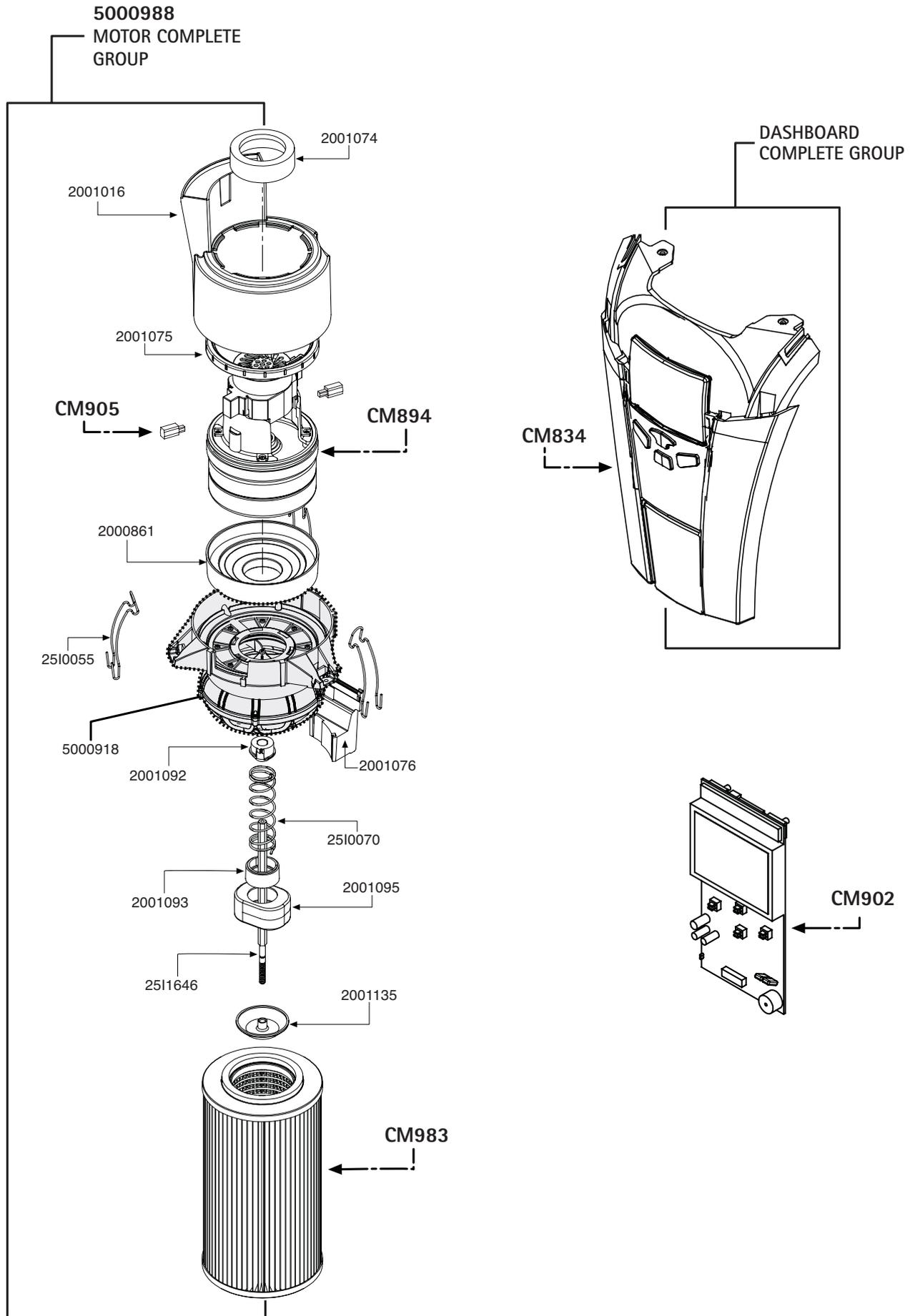


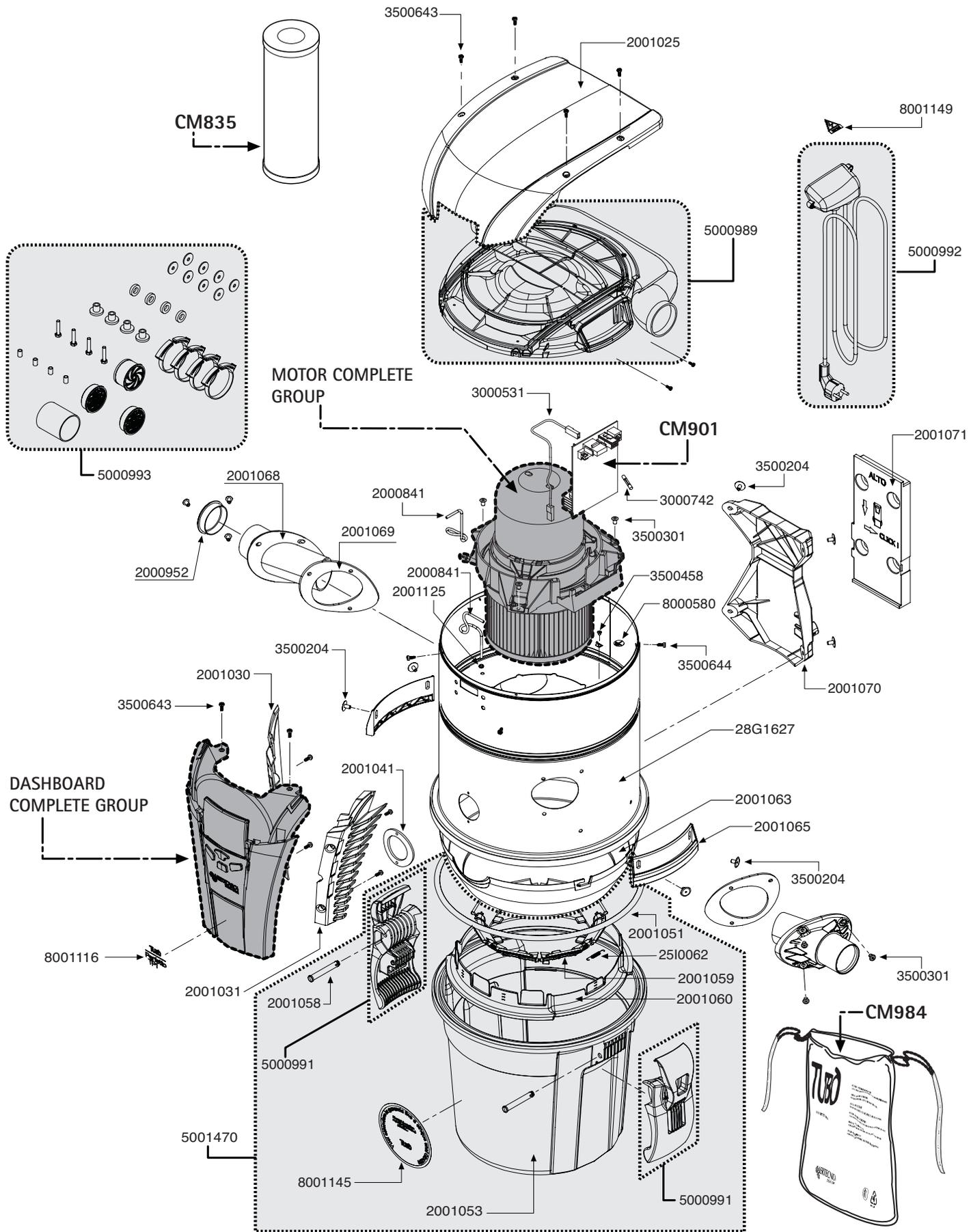




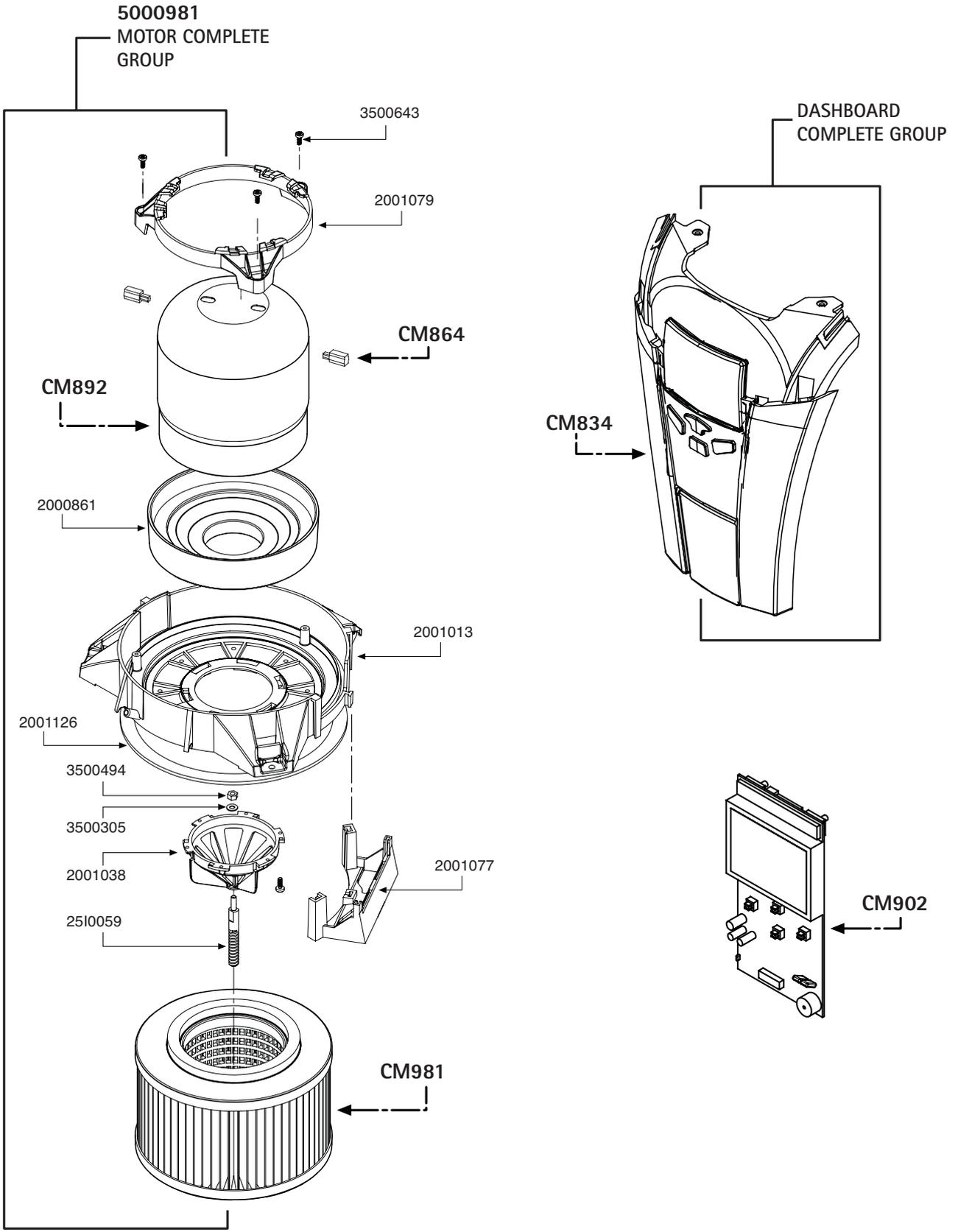


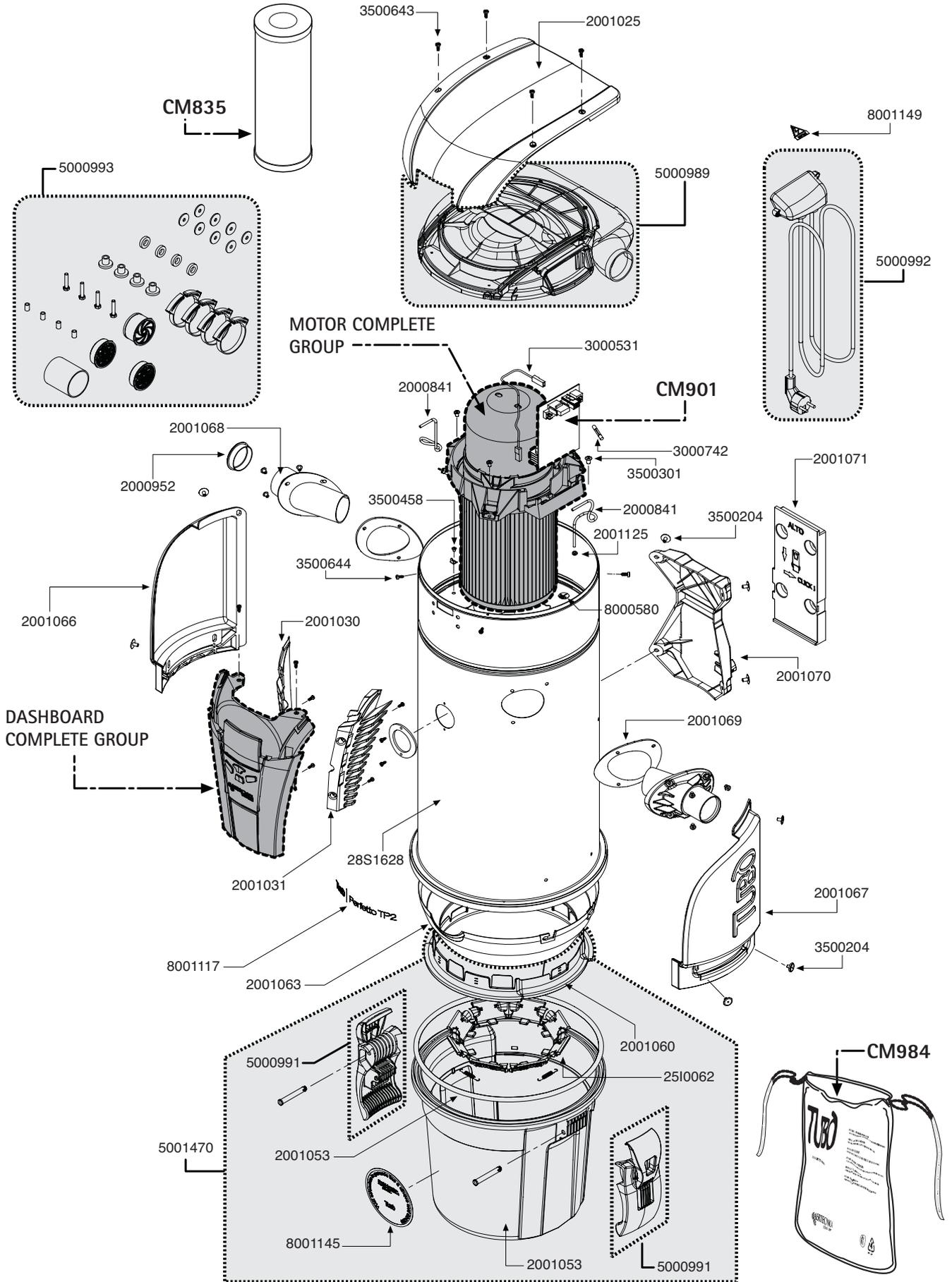
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- CM985** SINGLE ITEM SPARE PART



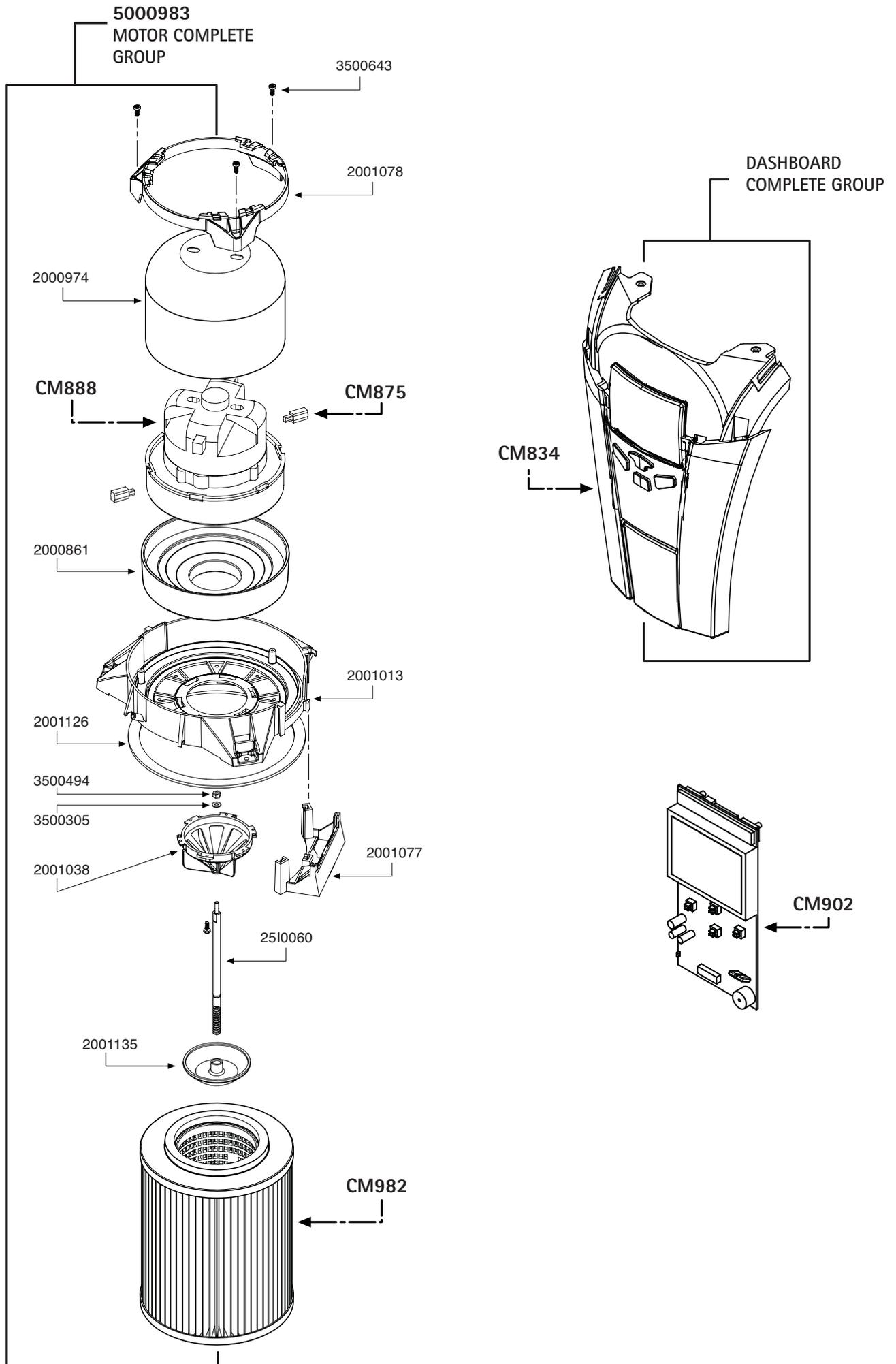


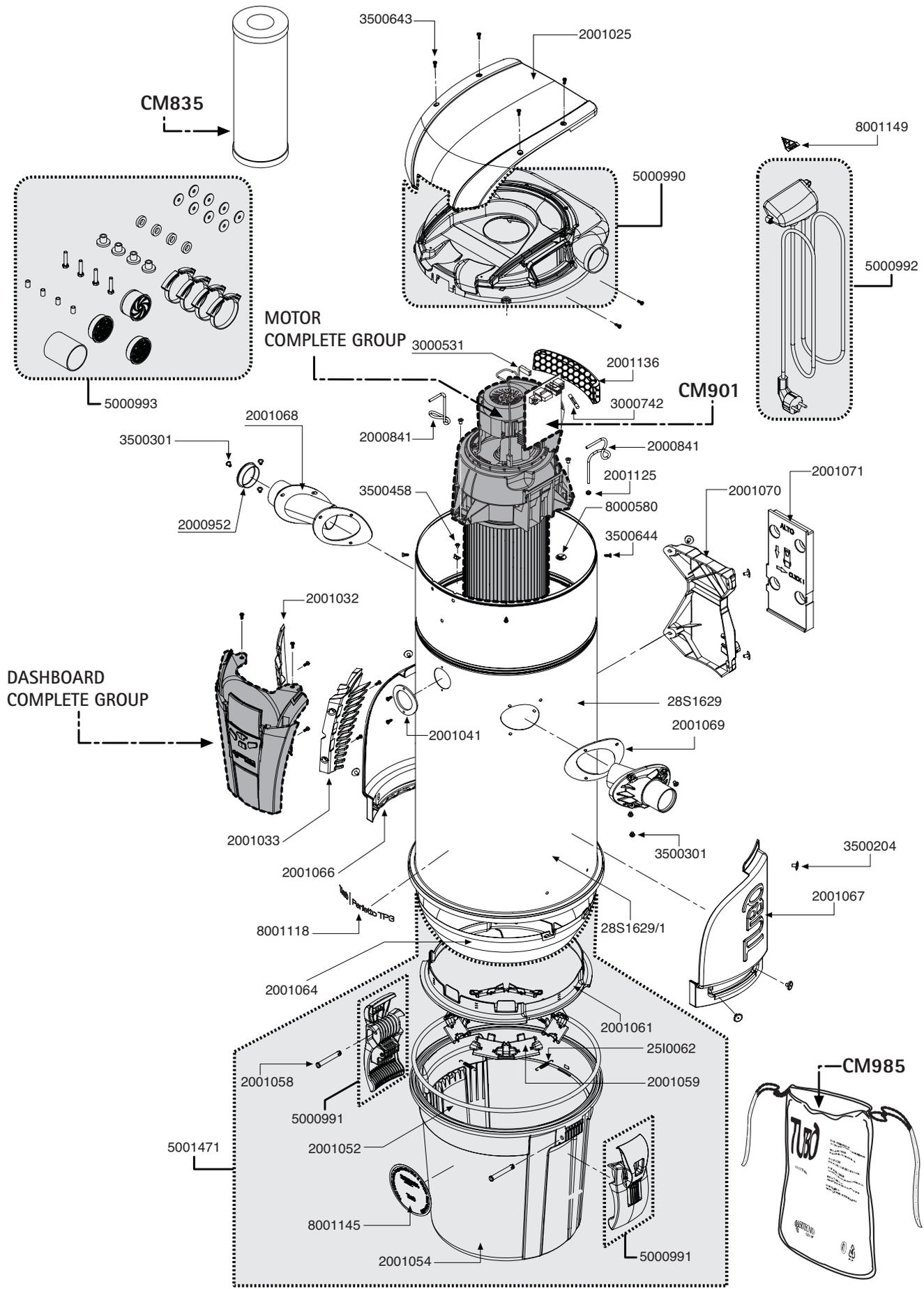
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- CM985** SINGLE ITEM SPARE PART





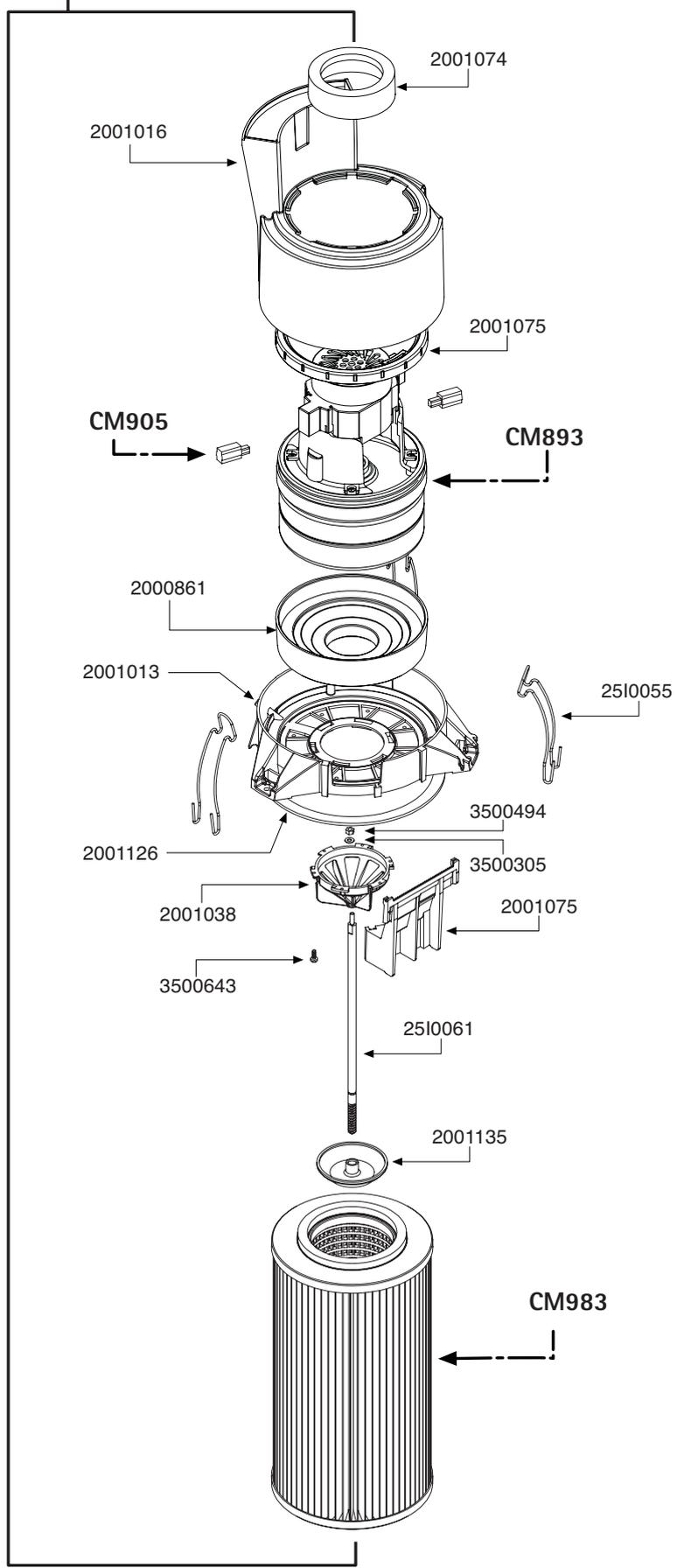
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**CM985**  SINGLE ITEM SPARE PART



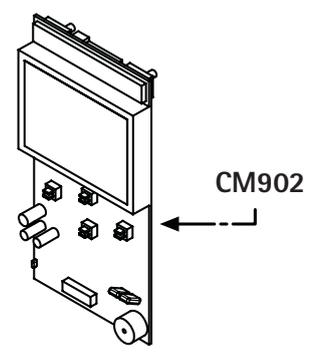
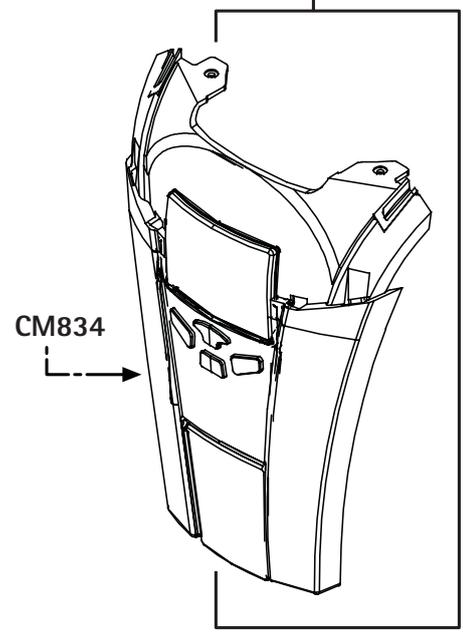


-  ASSEMBLY WITH SINGLE CODE
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- CM985** SINGLE ITEM SPARE PART

**5000985  
MOTOR COMPLETE  
GROUP**



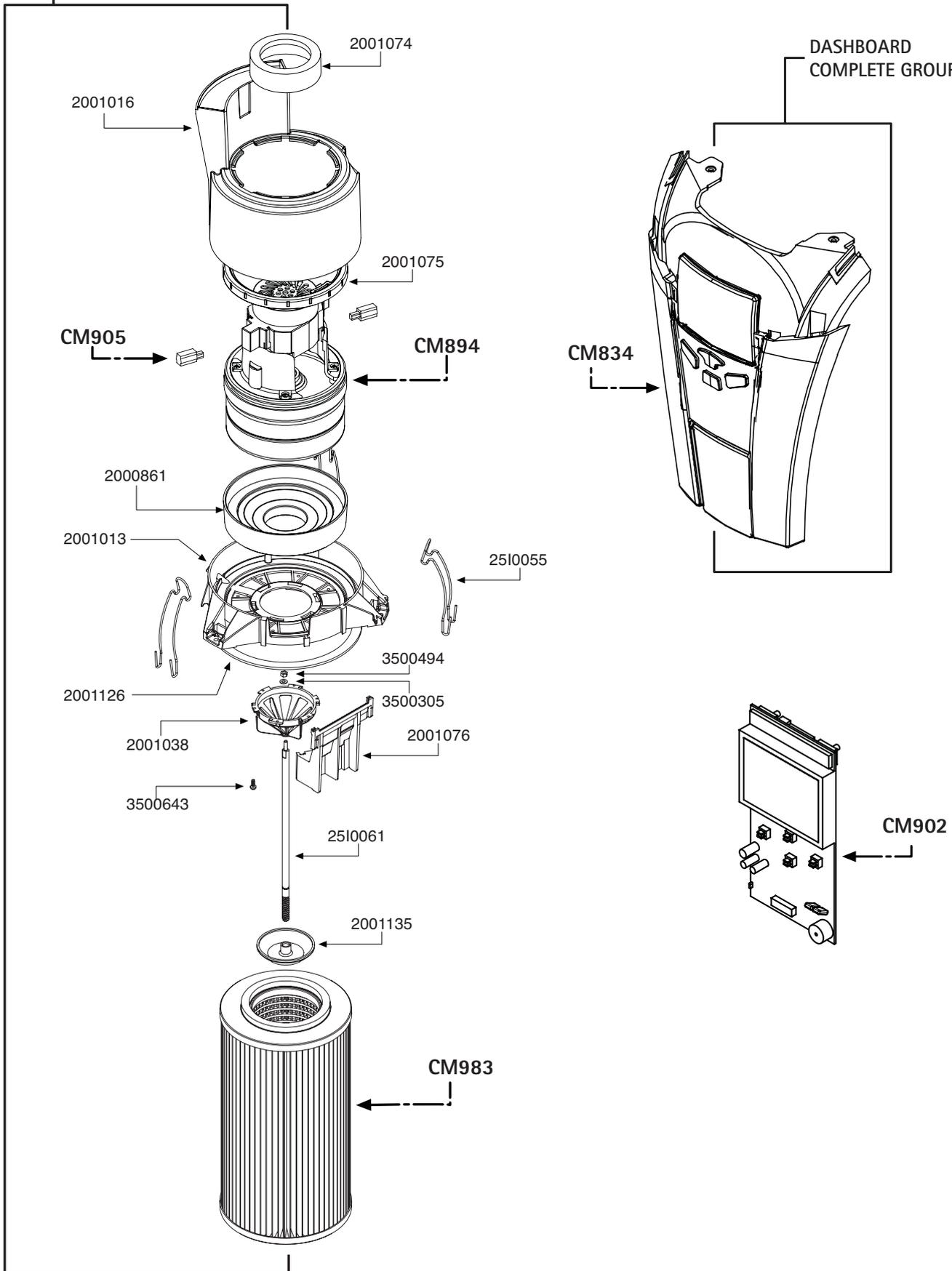
**DASHBOARD  
COMPLETE GROUP**

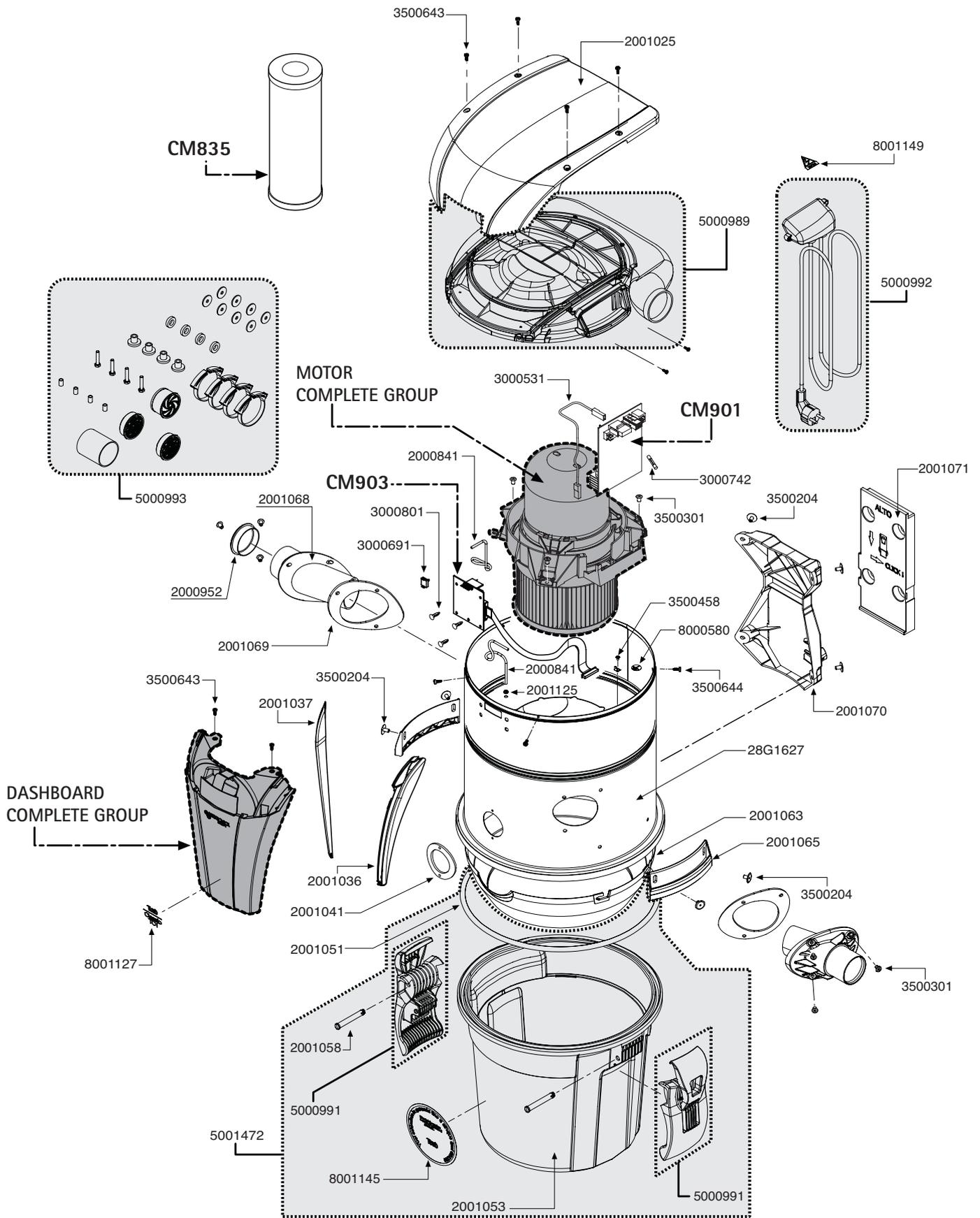




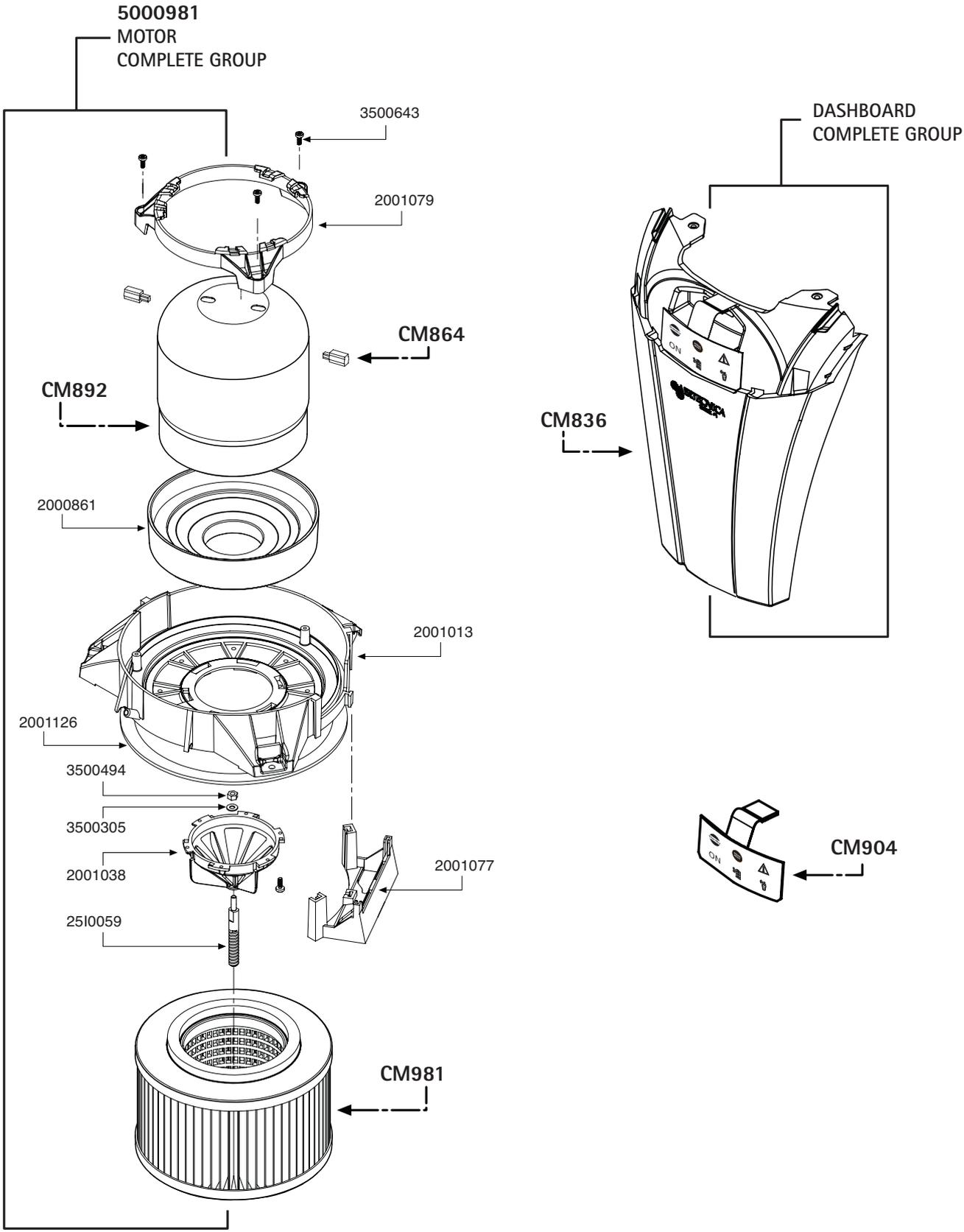
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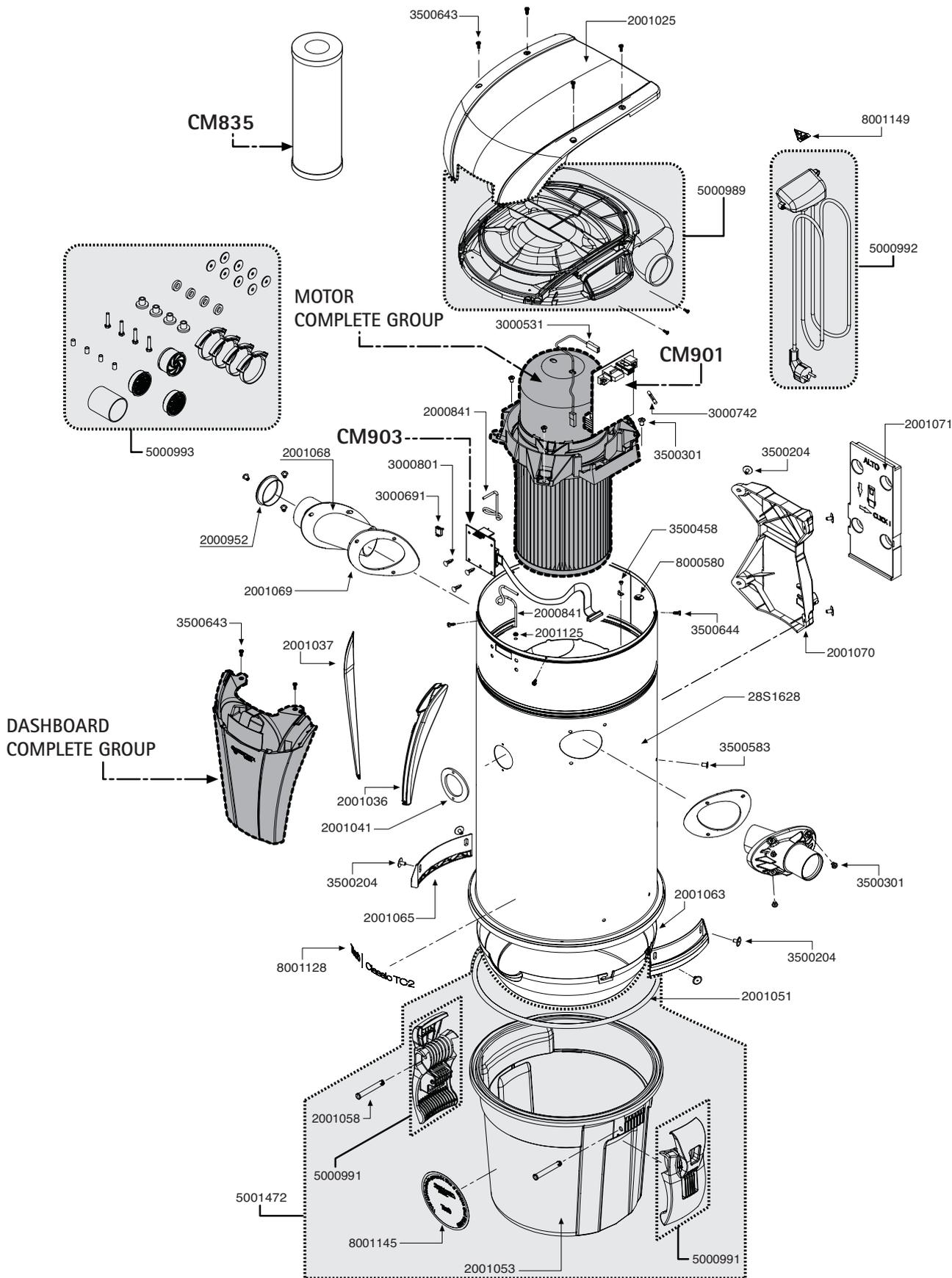
DASHBOARD  
COMPLETE GROUP



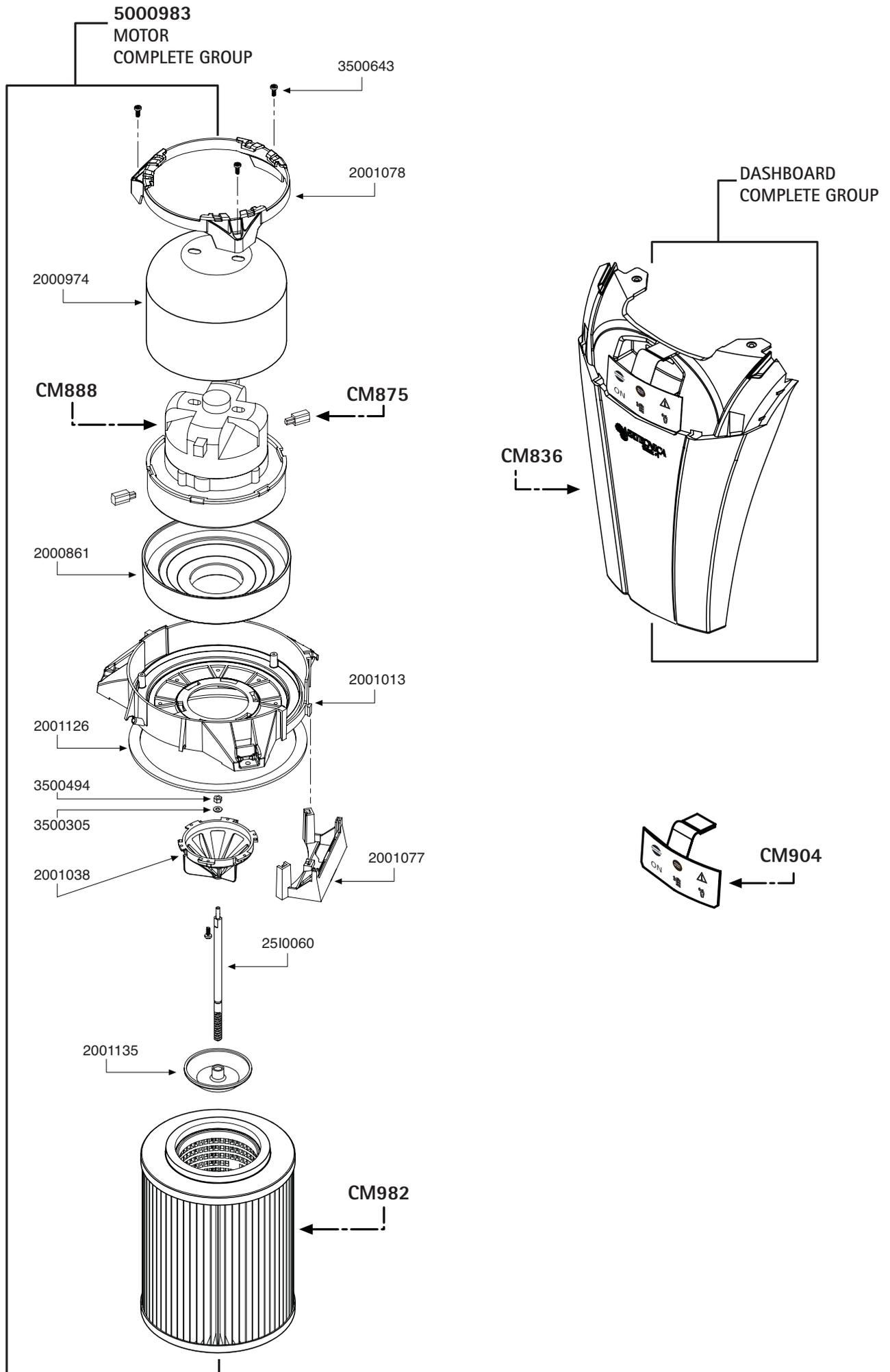


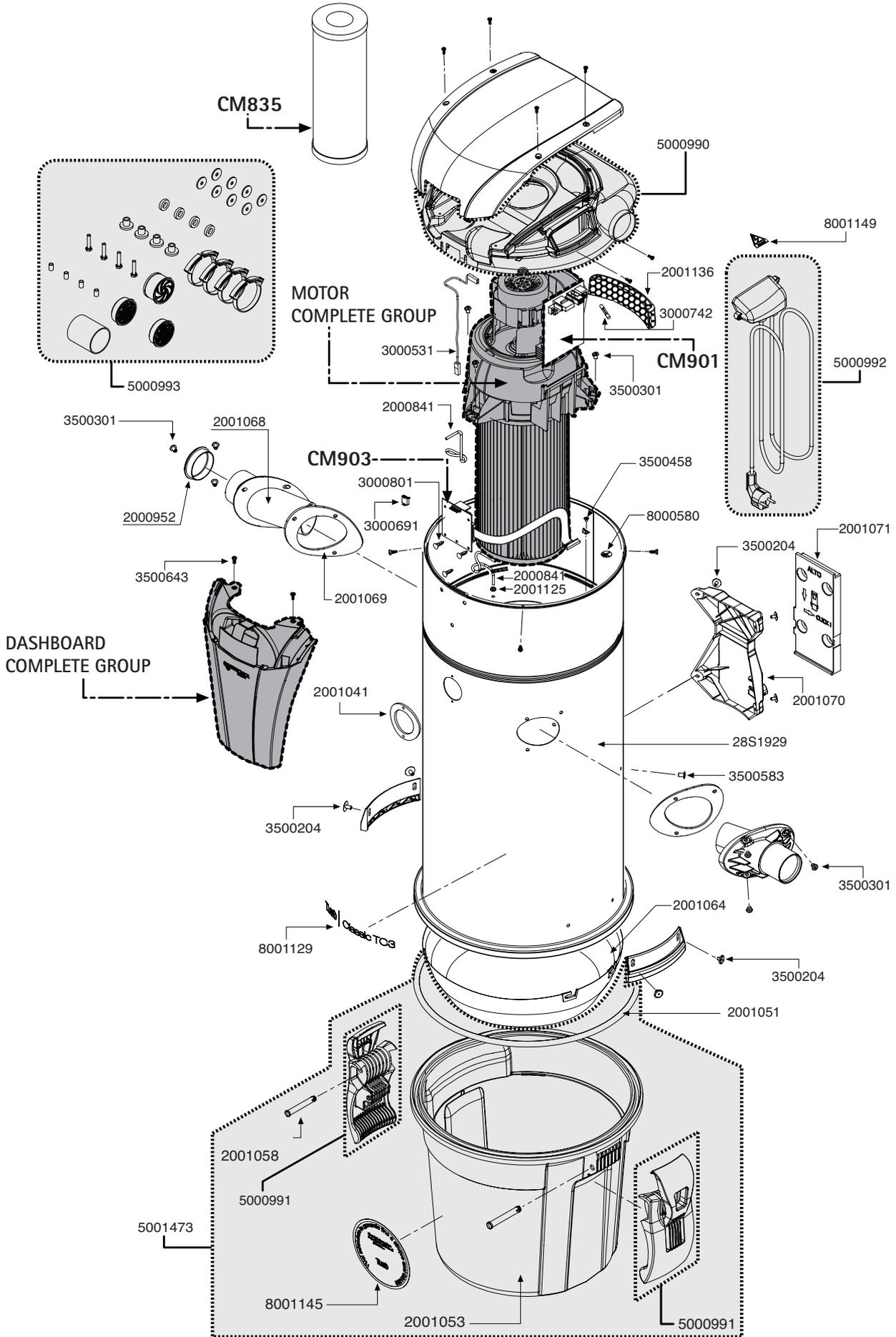
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-  COMPLETE GROUPS - SEE TAB. 26
- CM835** SINGLE ITEM SPARE PART





-  ASSEMBLY WITH SINGLE CODE
-  COMPLETE GROUPS - SEE TAB. 28
-  CM835 SINGLE ITEM SPARE PART

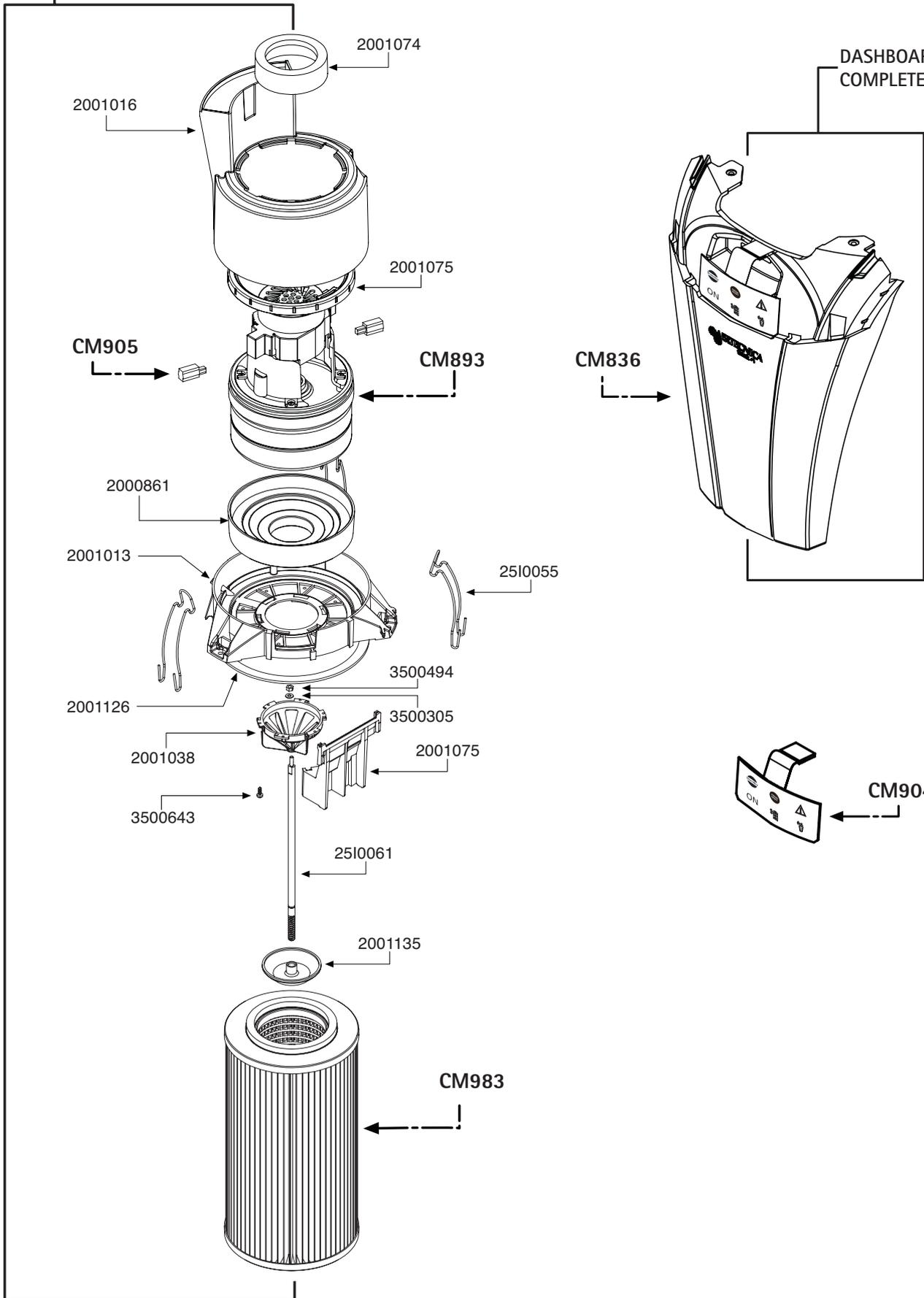


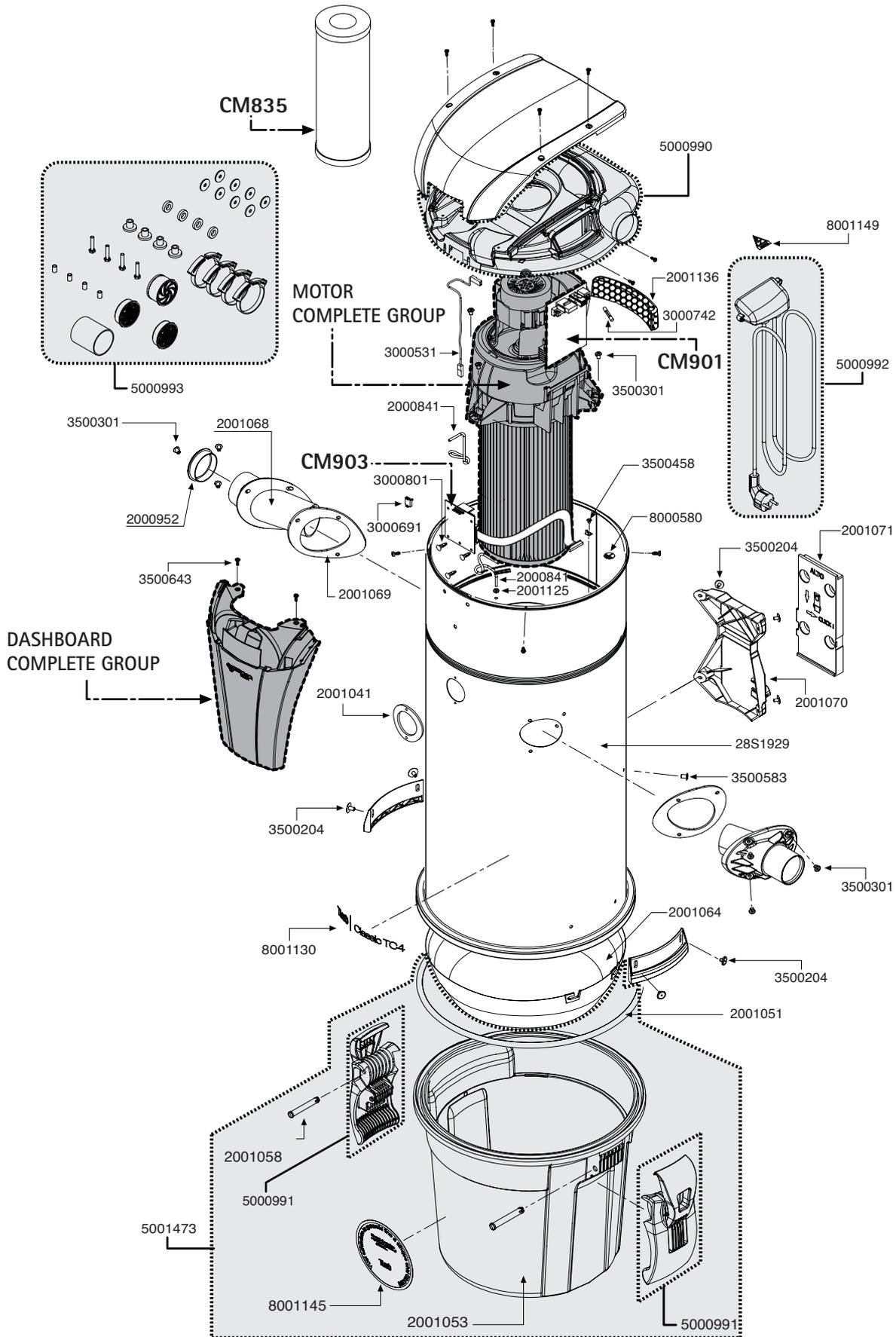


-  ASSEMBLY WITH SINGLE CODE
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- CM835** SINGLE ITEM SPARE PART

**5000985**  
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COMPLETE GROUP

DASHBOARD  
COMPLETE GROUP

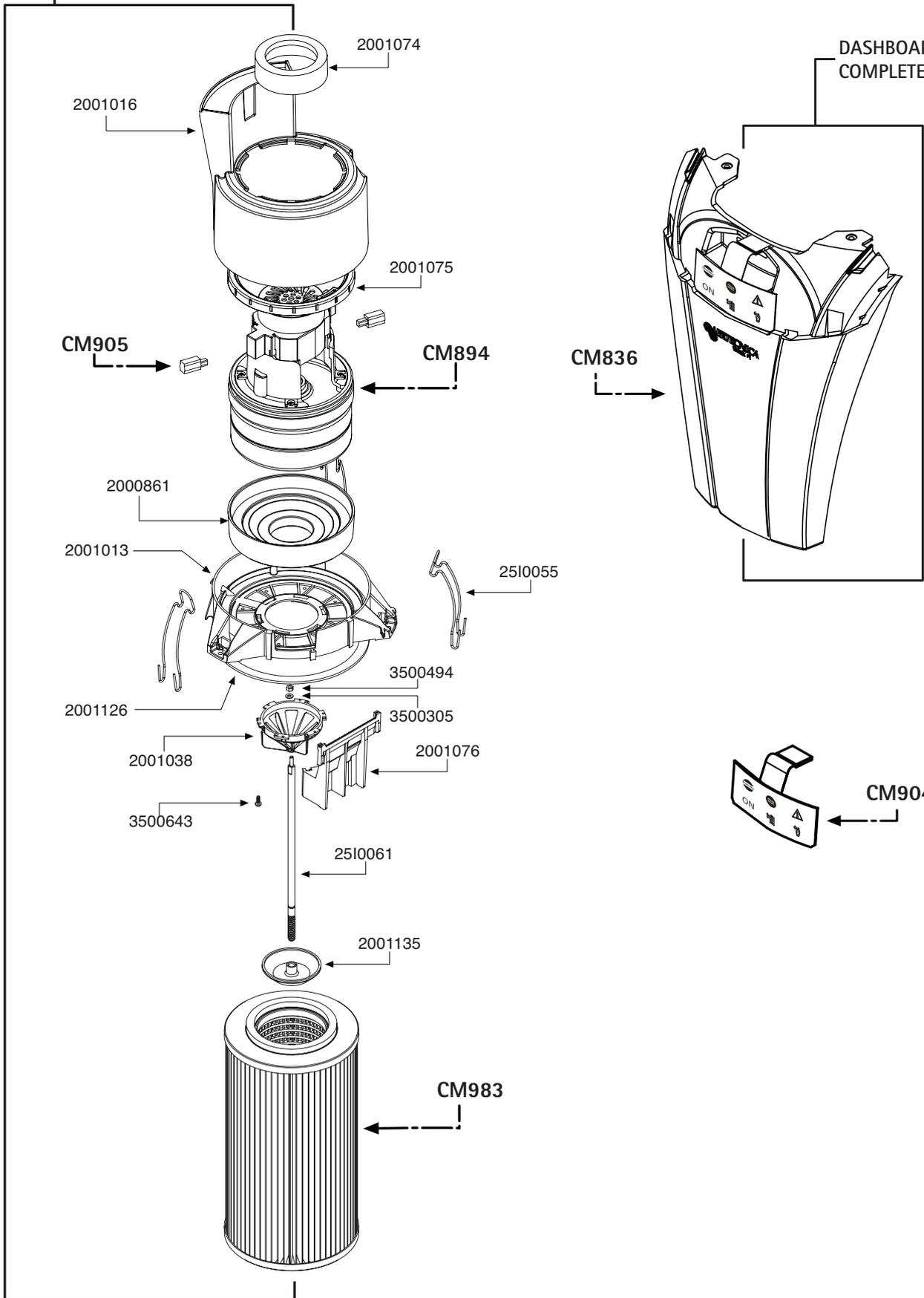




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 COMPLETE GROUPS - SEE TAB. 32  
**CM835** SINGLE ITEM SPARE PART

**5000987**  
**MOTOR**  
**COMPLETE GROUP**

**DASHBOARD**  
**COMPLETE GROUP**





It is prohibited to use the device for uses other than those described in this manual.  
The descriptions and technical illustrations may change. Aertecnica S.p.A. reserves the right to modify the product and the related technical documentation without incurring any obligation to third parties.

This version of the service manual describes the features relative to the product on the date on which this publication was licensed for printing.



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