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Corpus Vac®

Vacuum System and Equipment

www.corpusvac.com

Instructions Handbook

of Corpus Vac Vacuum Systems for Installation, Use and Maintenance

(Maxi, Midi Models and Corpus Cannulae)



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Introduction

Please read this handbook carefully and completely, before installing, using, maintaining and cleaning the equipment.

Please keep this handbook in a suitable place so that it is always available for consultation.

Important: In order to avoid injuries and failure of the equipment read “Security Warnings” carefully.

Security warnings are classified as below:

DANGER : Risk of injury for users

WARNING : Risk of damage for the equipment

The following presentation aims at illustrating the equipment to users; it also aims at explaining installation, use and maintenance as well as the dangers with precautions.

1. Description of the Equipment

All Corpus Vac suction and high vacuum systems continuously aspirate blood, saliva, dentin and a variety of filling materials as well as contaminated aerosols that are accumulated in the mouth of patient during operations by means of its powerful motor, therefore dentists using Corpus Vac high vacuum systems complete operations in a dry, hygienic, and clear mouth medium without interruptions for rinsing out the mouth. By the help of this, the risk of contamination from the aerosols that are spread out from the patients’ mouth is minimized for dentists. In order to do these tasks, Corpus Vac high vacuum systems are composed of a great many of integrated parts.

Motor, separator, cannulae, discharge motor, electronic card are the most important parts of all. Unlike many widely used vacuum systems, Corpus Vac high vacuum systems’ high suction power comes from the powerful motor.

Liquid and air including aerosols sucked from the medium are separated by means of separator and afterwards are drained automatically to the sewage system.

Note: If any unwanted material or chromium is sucked by the device, it would be held by the filter located into the cannulae group.

2. Intended Use

The intended use for the Corpus Vac high vacuum systems is removing the filling materials, waste measurement materials, dentin, saliva, blood, and aerosols as well as water sprayed from the tools, then separating the liquid-solid mixture, and lastly discharging the accumulated waste automatically to the sewage.

- The equipment is designed for dental and medical operations.

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3. Security Warnings

The manufacturer is not responsible for injuries and damages that are caused by the circumstances mentioned below:

*If the equipment is operated for any other purposes instead of its intended usage

*If the equipment is not used in compliance with this handbook

*Look at 3, 4 and 5

DANGER: The equipment has to be operated by the dentist or his/her assistance who read this booklet. When operated appropriately, it does not have any side effects.

DANGER: The equipment should not be operated other than its intended usage.
If it operated, it would harm patient, dentist or the equipment.

DANGER: In order to prevent patient, dentists or assistance from contamination, maintenance procedure stated under the sixth headline has to be read carefully.

DANGER: Only original Corpus Vac parts should be used if it is required.

DANGER: Do not locate the equipment any place where there is a possibility of explosion.

5. Packaging and Delivery

Corpus Vac high vacuum systems involve electronic systems, so it can be damaged by shocks even if it was in its package. In order to prevent any undesired situation, carrying and storage process has to be done very carefully.

All Corpus Vac products are tested and controlled after production and before packaging.

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6. CORPUS VAC MIDI :

6. How to carry the unit ;



Figure 1


Figure 2

Midi's package is compact and strong carton package. Please carry to be correct. The top of pack must be at above. After opening the pack. The unit has ergonomic and strong handle at the two side of cabinet.(Fig:2) You can carry the unit by to hold from this handle. Please don't return the unit up side down.

6. Installation ;

6-1. Main switch and main voltage connector and to connect the main voltage cable to main connector;

WARNING : The electricity must have ground.



Figure 3


Figure 4



Figure 5

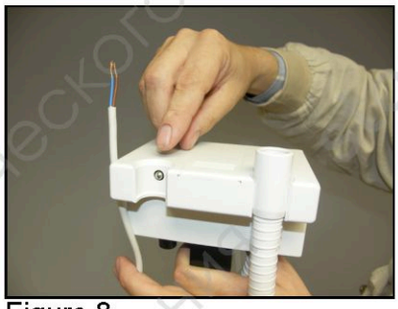
1-Please connect the main voltage cable to main voltage socket.(Fig:3)

2-Please plug the main voltage connector and to electricity.(Fig:4)

3-Please switch on the main switch and see the LED is on.(Fig:5)

6-2 The signal cable (Fig 7) which is going to automatic or manuel hose's switch;


Figure 7


Figure 8

3-a) By automatic switch (Figure 8) ;

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If you connect this signal cable to any automatic on/off switch which is located on the suction holder (cannulae center). Suction will be started automatically when one of the cannulaes is taken. Then if cannulae is put back, suction will stop and discharge will initiate automatically.

3-b) By manuel switch ;

If you don't have suction holder with any automatic switch you can connect any manuel (on/off) switch you can use this system by your hand or foot manually.

6-3 To connect the suction and drain hoses ;



Figure 9



Figure 10

You have to connect main suction hose to suction connector (which is coming suction hoses)(Fig:9) Please connect drain hose to drain connector and city system directly.(Fig:10) Be sure that wastewater hose is connected to drainage pipe carefully.

- Slope of drainage pipe must be at least 1%. (VERY IMPORTANT)
- When staying at a fixed position, if the slope of the drainage is not adequate, increase the altitude of the device until the slope of drainage will be sufficient.

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6-4 To connect the suction hoses with Corpus Coarse Filter at MIDI (OPTIONAL)

***** VERY IMPORTANT NOTE :** *The Corpus filter kit is located inside of Midi device to be separately pack during the transportation. Please open Midi's frontal lid and find the filter kit (OPTIONAL) and take it for the installation.*

The filter kit includes **1-** Main body, **2-** Fitler, **3-** Lid, **4-** Two type connectors for two type hose by inner diameter 25 mm and 30 mm. **5-** Plug for 90 or 180 degrees. (Figure 1)

You can installe the body to suction connectors of Midi easely without any tool. (Figure 2)



Figure 1



Figure 2 (body with 180 degrees connector)

After connection of the main body (Figure 3), insert the fitler (Figure 4) and plug the lid (Figure 5).



Figure 3



Figure 4



Figure 5

You have to plug the 90 degrees hole with its plug as figure 6. and another diameter connector by 30 mm (Figure 7)



Figure 6



Figure 8 (30 mm connector)



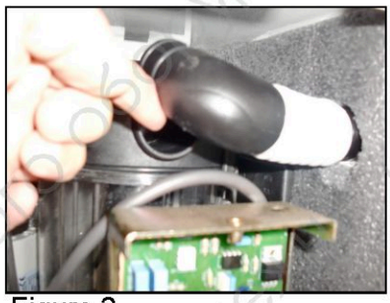
***We strongly recommand ; Please clean the filter in three day maksimum (according to heavy duty). You can wash the filter under the water by a brush.**

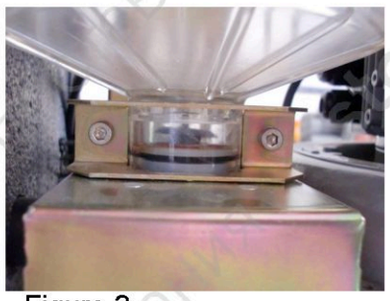
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6-5 CLEANING OF THE CANISTER (WATER / AIR) SEPARATOR

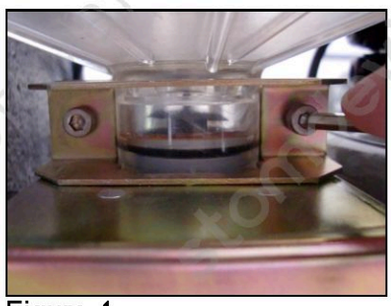
Please disconnect inlet and outlet hoses of the separator. (Figure 1 and Figure 2)
*Inlet connector is coming from the vacuum pump.
*Outlet connector is going to out of cabinet to patient.

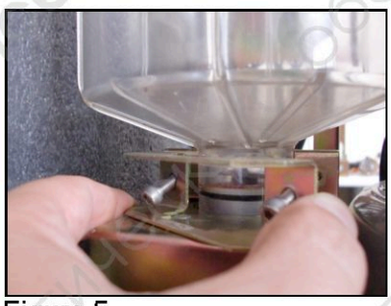

Figure 1

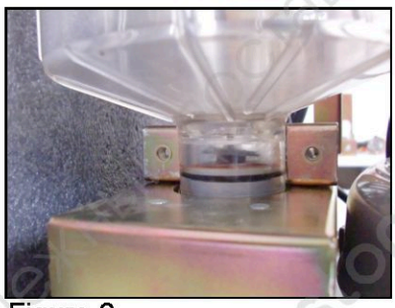

Figure 2


Figure 3

There is one metal parts holder with two screw at botom side of the canister. (Figure 3)
Please unscrew the two screw and replace the metal holder. (Figure 4 , Figure 5 and Figure 6)


Figure 4


Figure 5


Figure 6

You can take the canister to up and after take it out of the cabinet. (Figure 7 and Figure 8)

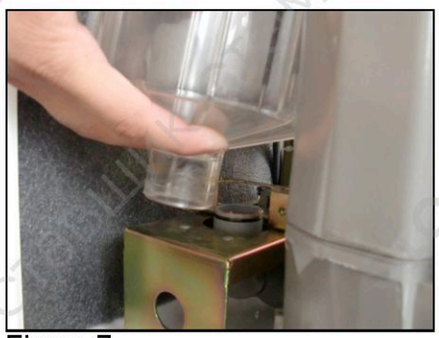

Figure 7


Figure 8

You can clean the lower part very easely. And you can re-installe the canister by the same way.

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7- CORPUS VAC MAXI

7-1 How to carry the unit ;

Maxi's package is compact and strong carton package. Please carry to be correct. The top of pack must be at above. After opening the pack ; The unit has ergonomic and strong handle at the back side of cabinet.(Fig:2) You can make it move on the wheels by holding from this handle. Please don't return the unit up side down.





Figure1

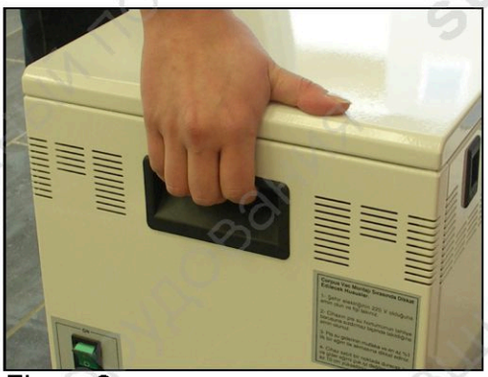


Figure 2

7-2 Main switch and main voltage Connector and to connect the main voltage cable to main connector;

1-Please connect the main voltage cable to main voltage socket.(Figure 3)

2-Please plug the main voltage connector to electricity.(Figure 4)

3-Please switch on the main switch and see the LED is on.(Figure 5)



Figure 3



Figure 4

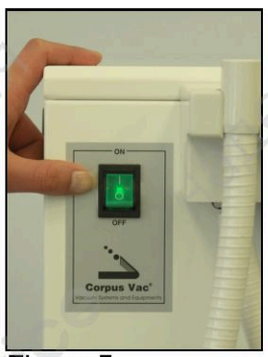


Figure 5

WARNING : The electricity must have ground.

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7-3 The connection of the signal cable (white) which is going to automatic or manuel hose's switch;



Figure 7

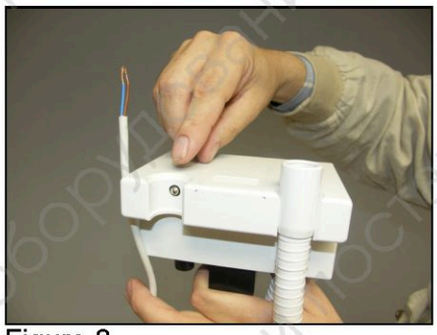


Figure 8

10-a) By automatic switch (Figure 7-8) ;

Corpus Canulla Center has automatic microswitch system inside of cannulae center. When you take the suction hose out from the holder's automatic switch will be position on and the vacuum will start automaticly.

7-4 To connect the drain hoses ;



Fig:9

Please connect drain hose to drain connector and city system directly.(Fig:9)

Be sure that wastewater hose is connected to drainage pipe carefully.

*Slope of drainage pipe must be at least 1%. (VERY IMPORTANT)

*When staying at a fixed position, if the slope of the drainage is not adequate, increase the altitude of the device until the slope of drainage will be sufficient.

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7-5 Installation of Corpus Cannulae center to Corpus Maxi :

You'll find two suction hoses with fixed connectors on two side in the pack. (Figure 1)
Please see all connectors have o ring.


Figure 1

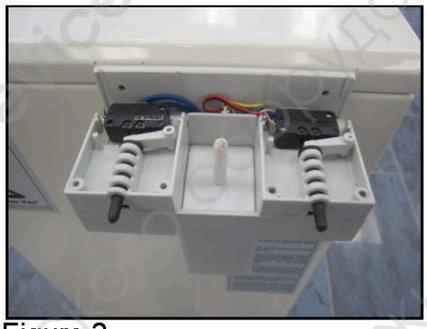

Figure 2

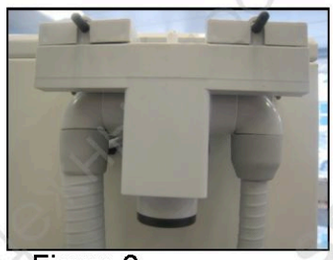

Figure 3

You'll see the cannulae center which is already installed to the Maxi cabinet (Figure 2) and two connector hole for the hoses connector at left and right side of the canulla center (Figure 3).

Please fix the connectors to be true to the their place as figure 4 and 5. After the every installation you have to check all connectors againts any leakage. You already came to the situation as figure 6 and you'll install the cover of cannulae.


Figure 4


Figure 5


Figure 6

The cover must be slided from front side to the back side on the rail at two side of cannulae center.

Please slide the cover untill the fixasyon screws at two side. (Figure 7 and 8)

After that please tie the screws enough to make the cover stable. (Figure 9)


Figure 7

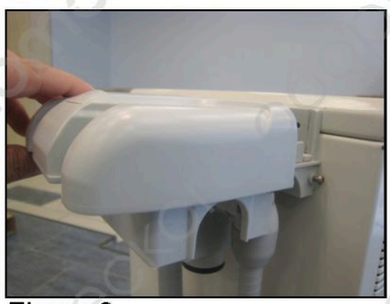

Figure 8


Figure 9

To be last step; please place the center coarse fitler to the socket ; the little lid is slided to back direction to open and the fitler is located inside of the its socket and the lid is slided to closed (Figure 10)

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Please connect the hoses true connector according to their diamater and put into (Figure 11)

Please check the microswitches are working when you take the hoses way from holder or put into the holder.

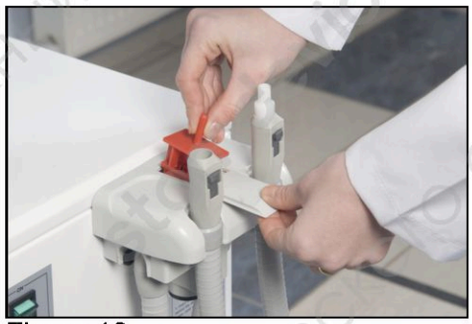


Figure 10



Figure 11



Here is the Corpus cannulae group is ready to use (Figure 12)

7-6 - Maintenance and Cleaning Of Cannulae Center and hoses

- One or two glasses of cold water should be sucked through the equipment after every treatment, in order to clean hoses and inner parts of the equipment.
- At the end of each day, the equipment should be cleaned and disinfected by non-foaming cleaning and disinfectant agents.
- After the cleaning process, the moveable cover on the center of canula port should be opened; filter should be taken out (removed) and cleaned by using brush. Then put the filter back to its place again.



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7 - 7 – MAINTENANCE AND CLEANING OF MAXI with MANUAL DRAINAGE:

1- HOW CAN YOU INSERT AND TAKE THE BOTTLE OUT FOR CLEANING ;

Please switch off the device through on/off button and open the front cover of Maxi cabinet. See the bottle. If the tank/bottle is full it is nearly 4 litres; please keep the tank firmly and carefully by two hands. (figure 1- 2)

Strongly hold the tank/bottle and its handle by two hands to rotate to left direction.(Figure 3 – 4)



Figure 1


Figure 2



Figure 3


Figure 4

After opening the tank, please move the bottle down in vertical direction until it touches to the metal plate. (Figure 5)

Take the bottle out of the cabinet carefully. Please do not touch the lid or lid's components which is located at the upper side. (Figure 6)


Figure 5


Figure 6

After discharging the bottle, please clean and rinse the bottle with city water. Fit the bottle to the lid again and turn it right to close by two hands strongly. (Figure 7-8-9)


Figure 7



Figure 8


Figure 9

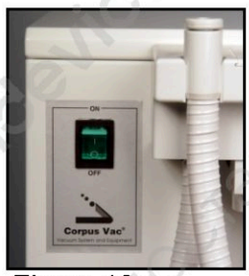


Figure 10

Please make sure the bottle is completely closed. Close the cabin's cover and switch the vacuum device ON (Figure 10) and your Maxi is ready to work.

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7 - 8 - CLEANING OF THE CANISTER (WATER / AIR) SEPARATOR

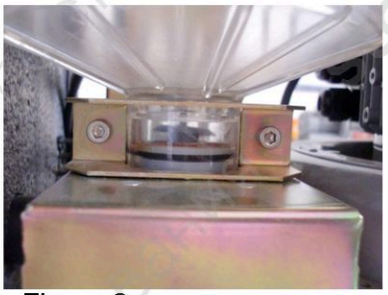
Please disconnect inlet and outlet hoses of the separator. (Figure 1 and Figure 2)

*Inlet connector is coming from the vacuum pump.

*Outlet connector is going to out of cabinet to patient.

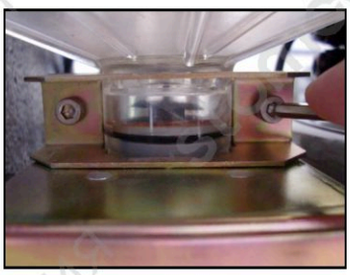

Figure 1

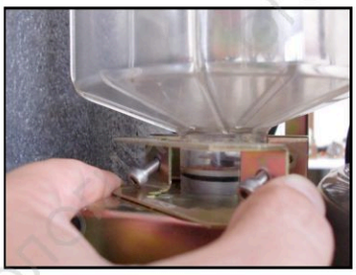

Figure 2

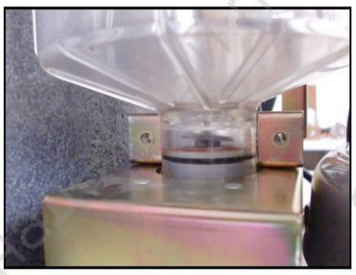

Figure 3

There is one metal parts holder with two screw at botom side of the canister. (Figure 3)

Please unscrew the two screw and replace the metal holder. (Figure 4 , Figure 5 and Figure 6)


Figure 4


Figure 5


Figure 6

You can take the canister to up and after take it out of the cabinet. (Figure 7 and Figure 8)


Figure 7


Figure 8

You can clean the lower part very easely. And you can re-installe the canister by the same way.

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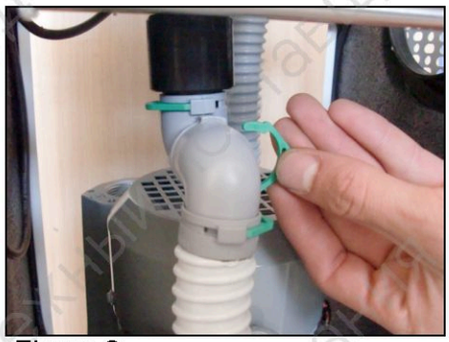
7 – 9 - CLEANING OF OLD MODEL MAXI AIR / WATER SEPARATOR ;

*Please open the cover of the Maxi both two side (Figure 1) and disconnect the vacuum inlet hose of the separator which is coming from Vacuum pump. (Figure 2)

*Also please disconnect to the drain connector which is located under the drain pump (Figure 3)

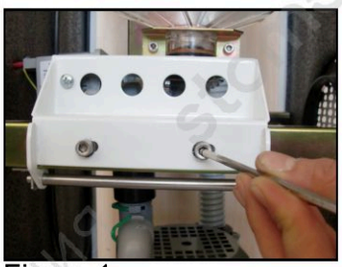

Figure 1

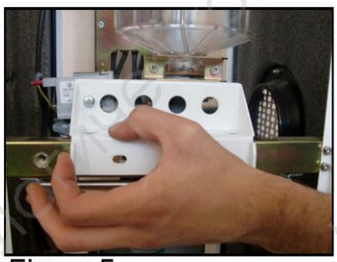

Figure 2

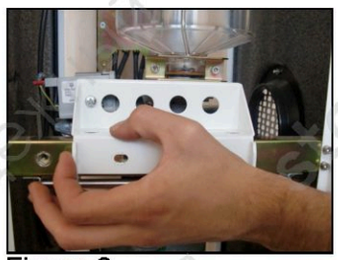

Figure 3

*Please deattached the two screw which are keeping the all canister assembly stabilization (Figure 4).

*Please disconnect to the connectors of vacuum inlet which is between the cabinet (cannulae center) and the separator outlet (Figure 5) and slide to the assembly to right direction untill the end of the way.(Figure 6)


Figure 4


Figure 5


Figure 6

*The separator assembly is free after now you can roll it at its' around to up side down. You can open its lid and clean the separator. If you need you can unscrew from holder of the separator screws and you can take the separator to out side totaly. (Figure 7 and 8)

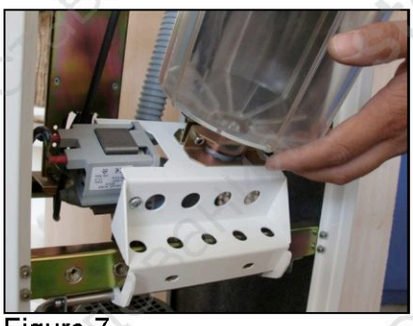

Figure 7


Figure 8

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8- TROUBLESHOOTING
(CORPUS MAXI AUTOMATIC, MIDI & CABRIO VACUUM DEVICE)

PROBLEM	REASON & ANSWER
The switch is ON but its LED is OFF or there is NO power, (IF THE DEVICE IS COMPLETELY DEAD)	1-Please check city electric, 2-Main fuse which is located inside of main electric socket, 3-Pls check the main switch's cables and connectors
Main switch and its LED is on but device is not working.	1-Please check the main connector on the main processor board (in the black box) 2-Please check the signal cables and its connectors between cannulae (dental unit) and main PCB (main control board)
Main electric, main fuse, main switch and signal cables and connectors OK but device is not working.	Please check the POSITION LED on the main PCB (main control board) to understand the vacuum device's current position; There are two LED on the pcb to tell the device current position. **POSITION 1 :** Right side LED(Red / or gren): THIS LED IS FOR VACUUM. If the vacuum motor is working and if there is vacuum, right side LED is always ON. **POSITION 2 :** Left side LED (Yellow) : THIS LED IS FOR AUTOMATIC DRAIN. If the separator is full and drainage has started by drain pump, left side LED is ON untill end of drinage period. *** IMPORTANT : If the device is at position 1 (vacuum period) the drain pump does NOT work normally. If the device is at Position 2 (drainage period) the vacuum pump does NOT work normally.
The right side LED is ON(POSITION 1) but vacuum pump (motor)does NOT and no sound (VACUUM PUMP IS DEAD)	1-Faulty cable or connectors. Please check the vacuum pump cable and its connectors on the main PCB. 2-Faulty fuse onthe main PCB. Please check it. If you need replace it with new one. 3-Faulty condansator Please check and if you need, pls replace it 4-Faulty vacuum motor. If the capacitor is OK. Please check the vacuum motor. If it is faulty. Please replace it with new one. (OR repair it)
The right side LED is ON(POSITION 1) but vacuum pump does NOT work but there is as a motor sound. IMPORTANT NOTE: Dont't mix drain pump noise with vacuum pump noise.	FAULTY VACUUM PUMP (MOTOR) The motor may be stuck or faulty. REPLACE THE VACUUM MOTOR.
The left side LED (Drain) is ON (POSITION 2) but drain pump is working or there is its sound. (At that time vacuum motor does NOT work NORMALY)	**If the yelow (left side LED is ON;** **It means the separator (Canister) is FULL.** **Also It means the vacuum device is in drain period and it is busy for drainage.** **At that time vacuum pump does not work untill the end of drainage.**

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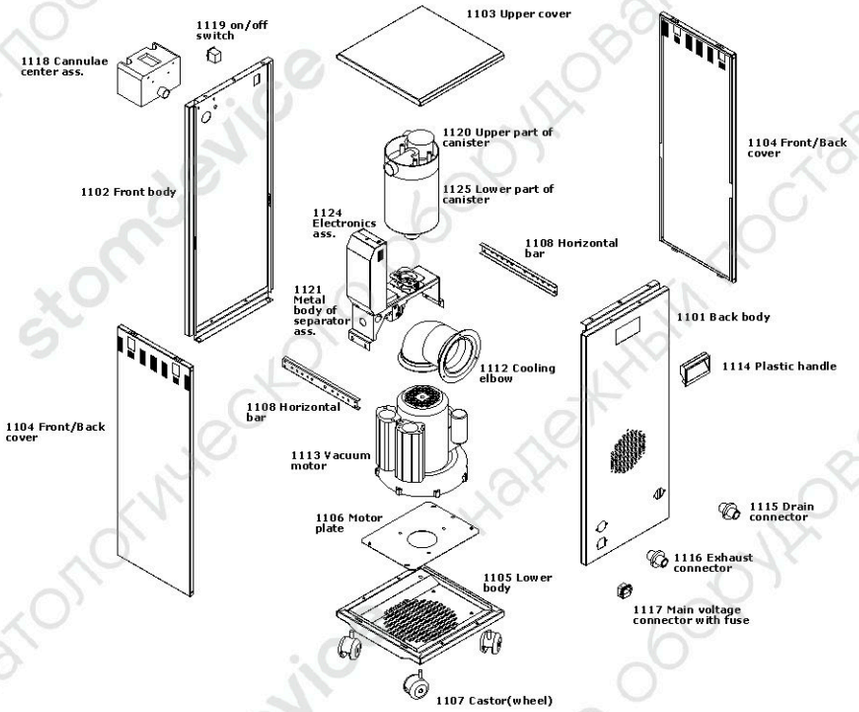
***** IMPORTANT : This situation is lived very oftenly)**	1-If drain is going on but it is not finishing. IT MEANS SOMETHING ARE WRONG AT DRAIN SYSTEM. ***** VERY IMPORTANT NOTE: As you know there are three level probes inside of the separator (canister) The probes control the level of secration inside of canister. And they send message to the main electronic board. The PCB controls the vacuum and drain period and all function by this way.** a-Please check the city drain system's condition. The drainage may be slow or never by any obstructor at the drain system. Please clean the drain system of the clinic. *** You can disconnect the probe's cable on the PCB. It means you will be canceled the level probes and try to make system work. If the vacuum works it means there is some wrong as below; c-Please clean the probes. Be sure ther is no any corosion, dirty end and shortcircut. d-Please check the check valve which is located lower part of canister. **(As you know the check valve is closing the drain system during the vacuum function.)** The check valve may be does not work or stuck) Please check it is working or not. e- Please replace and test the main control board (PCB) with new one. f- Faulty drain pump. Please replace the drain pump with a new one.
Vacuum motor is working but the vacuum pressure is very low or there is NO vacuum pressure.	Please check all suction and exhaust tubes and connectors inside of the cabinet. . The suction connectors may disconnect, the suction or exhaust tubes are bending (no air way enough). Please be sure about all connection.
If the vacuum motor worked long time and it stopped suddenly. All electrical displays are normal butvacuum pumps is not working and no vacuum / no suction	Sometimes the motor may be heat so much after long treatment at that time the thermal protector can make the motor stop to protect the motor. (Other way it may burn because of over heating)
If the vacuum device is located out of the apartmant. It can be frozen in winter time.	Please protect the device against the low temparature in winte timer.

***** IF YOU COULD NOT FIND ANY SOLUTION PLEASE CONTACT CORPUS VAC AFTER SALE SERVICE DEPARTMENT.**

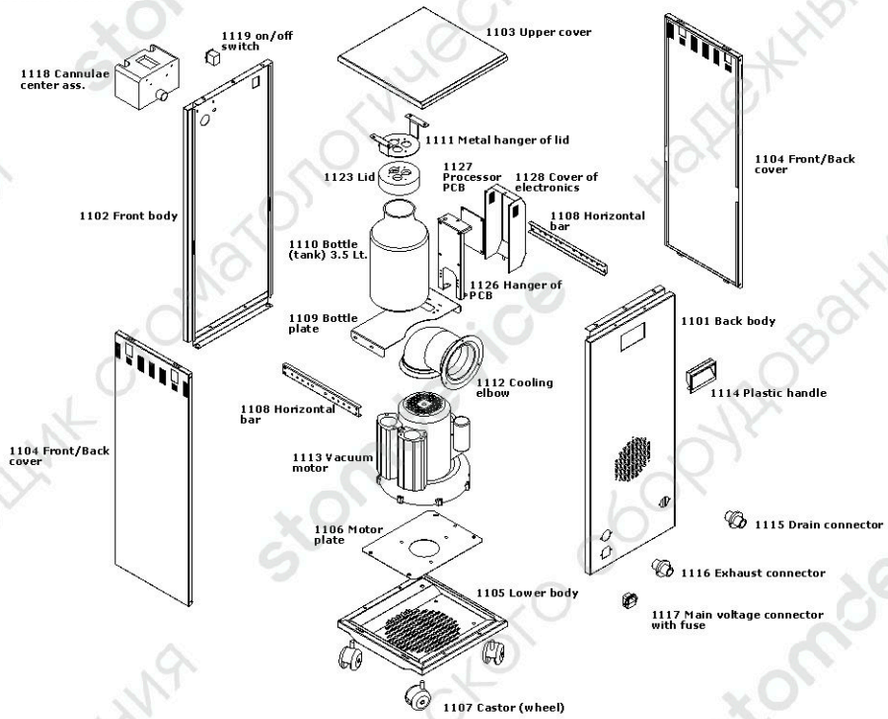
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9 SPARE PARTS MANUAL

001A- Maxi AUTOMATIC

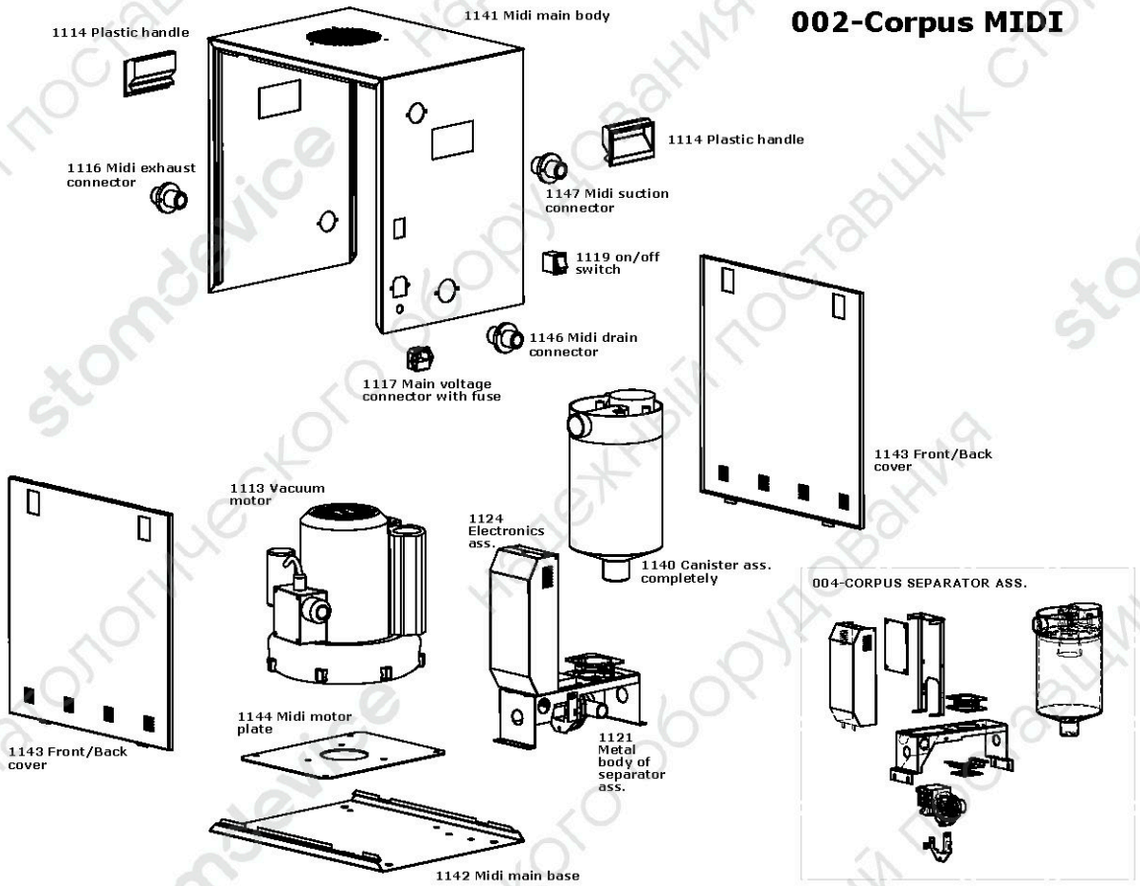


001M- Maxi MANUAL

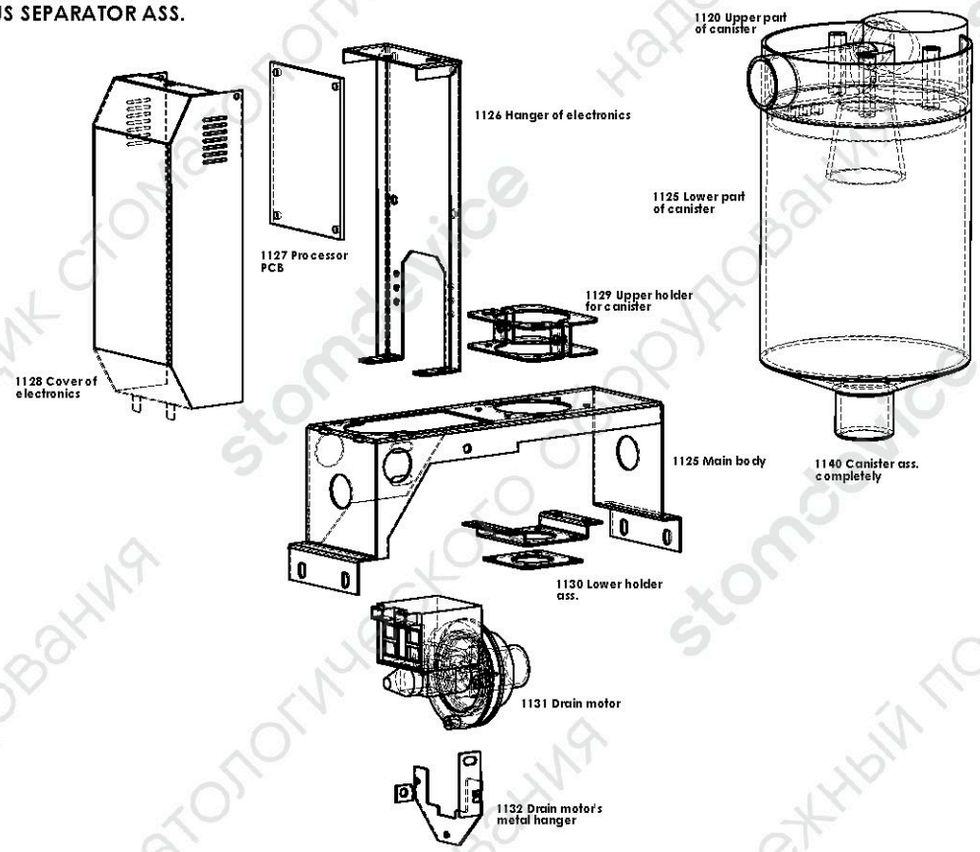


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002-Corpus MIDI



004-CORPUS SEPARATOR ASS.



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CODE	DESCRIPTION	
1101	Back body of Corpus Maxi cabinet	
1102	Rubber amortisor for Vacuum motor (Code 113)	
1103	Upper cover of maxi Cabinet	
1104	Maxi front/back cover with latch	
1105	Maxi lower body without castor(wheel)	
1106	Maxi motor plate (base)	
1107	Maxi wheel (castor)	
1108	Maxi horizontal bur for cabinet	
1109	Bottle plate for Maxi Manual	
1110	Bottle (3,5 Lt) for maxi Manual	
1111	Metal hanger of lid of maxi Manual	
1112	Maxi motor cooling plastic elbow (100mm) with rubbers	
1113	Vacuum pump (0,500 / 0,400 watt)	
1114	Plastic handle of Maxi and Midi cabinet	
1115	Drain connector for Maxi cabinet	
1116	Exhaust connector for Maxi and Midi, Cabrio cabinet	
1117	Main voltage connector with fuse	
1118	Cannulae Center assembely without tubes	
1119	On/Off switc for Maxi, Midi, Cabrio, Herculles	
1120	Upper parts of canister with level probe	
1121	Main body(base) of MAXI separator	
1122	Check valve with screw fpr canister (lower part)	
1123	Lid assembely for Maxi manual bottle	
1124	Metal hanger+ cover for Maxi electronic.	
1025	Lowerpart of canister with check valfe	
1126	Metal hanger of electronic	
1127	Main Control PCB (Electronic) for 500 watt with 10 mA	
1128	Metal cover of electronic for all devices.	
1129	Upper holder for canister for Maxi, Midi, Cabrio)	
1130	Lower holder ass. For Midi canistere	
1131	Drain pump (motor) 230 V	
1132	Metal base (hanger) for drain pump	
1133	Main connector of Drain pump for Maxi Automatic	
1134	Inlet / Outlet connector forvacuum pump 30 mm	
1135	Inlet / Outlet connector forvacuum pump 25 mm	
1136	Corpus Connector Female with o-ring + lock (5 pcs in one bag)	
1137	Corpus Connector Male with o-ring (5 pcs in one bag)	
1138	Connector Elbow with o-ring + lock	

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1139	Fuse 10A (for Maxi & Midi vacuum pump 500watt)	
1140	Canister assembely completely without connector	
1141	Midi Main body 9016	
1142	Midi Main base 9016	
1143	Front/Back Cover for Midi Cabinet	
1144	Metal plate (base) for Midi vacuum pump	
1145	Saliva ejector hose connector to suction tip ass.	
1146	Midi Drain connector for cabinet	
1147	Midi suction connector 30 mm (standart)	
1148	Midi suction connector 25 mm (Italy style)	
1149	Metal handle for Cabrio	
1150	Cabrio main base	
1151	Cabrio exhaust connector's metal holder	
1152	Rubber foot for Midi + Motor + Cabrio Cabinet	
1153	Connector for Separator Lid 90 (Large size)	
1154	Separator probes' PCB	
1155	Separator probe assembly with PCB	
1156	Separator lid elastomer latch	
1157	All size of o ring	
1158	Exhaust assembly (completely) for Midi or Cabrio	
1159	Motor second plate with 4 rubbers leg	
1160	Signal cable connector for Midi, Cabrio cabinet	
1161	Reserved	
1162	Cabinet for Midi (Empty)	
1163	Cabinet for Maxi (Empty)	
1164	Cabinet (completely for Vacuum motor w/o connectors	
1165	Reserved	
1166	Reserved	
1167	Reserved	
1168	Reserved	
1169	Reserved	
1170	Canulla Body	
1171	Canulla body exit plug	
1173	Canulla holder pin (on/off)	
1174	Suction Hose (Inner diameter 10 mm) -1meter	
1175	Suction Hose (Inner diameter 17 mm) -1meter	
1176	Saliva ejector tip assembly (w/o hose) NEW	
1177	High Vacuum tip assembly (w/o hose) NEW	
1178	Canulla Center Cover	

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1179	Canulla Filter Lid	
1180	Filter for cannulae center	
1181	Canulla Micro switch	
1182	Canulla Microswitch base	
1183	Canulla Microswitch latch	
1194	Canulla Center body	
1185	Canulla body 90 connector	
1186	Saliva ejector hose connector to Canulla center body	
1187	Saliva ejector hose connector to suction tip ass.	
1188	High volume suction hose connector for two end (Each)	
1189	Air Venturi air nipple (90 degree)	

NOT .....

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Vacuum System and Equipment

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