



**GENERAL
EUROPE
VACUUM S.r.l.**
Tecnologie Del Vuoto

**MAINTENANCE BOOK
AND
SPARE PARTS**

***ANAESTHETIC GAS EVACUATION
SYSTEMS***



**SISTEMA QUALITÀ
AZIENDALE**

certificato in accordo alla norma
ISO 9001 e sottoposto a verifiche
volontarie e periodiche



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1.1 IDENTIFICATION LABEL DATAS

Do refer to the lable on the machine for getting more information about the product.
Our after sell dept .is at your disposal for further information you might need.



Fig. 1.1.- IDENTIFICATION LABEL

1.2 REFERENCES AND STANDARDS:

- European standards EN 737-2 - Medical gases distribution systems - Part 2: Anaesthetic gas evacuation systems
- D.L. 46 / 97 " Medical regulations " in compliance with directive 93 / 42 CEE
- Machine directive 89 / 392 CEE and following amendments and 89 / 336 CEE
- Directive 73 / 23 / CEE and following amendments
- EN 61000-3-2 + enclosed 13 , EN 60601-1-2, EN 61000-3-3
Electromagnetic compliance (EMC) Part. 3 limits Section 2 limits for harmonic current emission (equipment input current - 16A per phase).
- Wiring in compliance with EN 55015 , EN 60204
Limits and methods of measurements of radio disturbance characteristics of electrical lighting and similar equipment.
- EN 55011 limits and measurements methods of disturbance radio characteristics of industrial and scientific equipment .
- CE European Standard on the machine

2.1 WARRANTY

- The GSE has a 12 months warranty from delivery date.
- Do refer to GEV for any trouble type



2.2. SAFETY RULES

- Do not move, install or start up the package without reading this maintenance book.
- Do not leave instruments or any other staff inside the machine.
- Be careful during any transport

3.3 MAIN COMPONENTS DESCRIPTION

The anaesthetic gas evacuation system GSE consists mainly of following components

- N° 2 Side channel blowers – aluminium Body and fan
- N° 2 Electric motor singlephase - 220 V - 50 Hz
- N° 2 Non-return clapet brass valve
- N° 1 Cartridge filter GFC - Filtering grade 20 μm
- N° 1 Vacuum regulation valve with silencer complete of Regulation gear
- N° 1 Vacuum switch showing poor depression -
- N° 1 Dial embedded Vacuum meter dia. 63 mm. - Scale 0 / -160 mbar
- N° 1 Electric control panel board containing :
 - N° 2 power remote switches with the relative thermal protection
 - N° 1 transformer 24 V for the ancillaries
 - N° 1 Analogic sheet for controlling system by means of distance electric panel board type GPA2
 - Front panel board equipped by :
 - N° 1 main switch
 - N° 1 key selector RUN / STOP
 - N° 1 TEST Button
 - N° 1 Advising alarm PUMP 1 RUNNING
 - N° 1 Advising alarm PUMP 2 RUNNING

All the above mentioned components are assembled to a carbon steel basement with vibromounts adjustable for a perfect system allocation .

A painted sheet fillet, removable for maintenance, is housed on basement (our standard GREY color) and complete of open door for acting on vacuum regulation valve, vacuum switch calibration screw and filter inspection .

The fillet has an opened side which must be located against the room wall.



Stop button, Running button, test button, off button
Pumps light 1-2 stopped
Normal running light
Waiting light
Unsufficient vacuum light
Volts presence light

Panel dimensions : mm 210x167x73
Approx weight: 300 gr.
The panel can be wall-mounted

3.3.4 NOISE LEVEL

66 dBA (at 1 mt. Open space)

3.3.5 ENVIRONMENTAL WORKING LIMITS

Package could run within the following environmental limits :

- Temperature : from 10°C to 45°C;
If however temperature goes down to 10°C and closest to 0°C either with installed machine or not, all the necessary procedures have to be taken in order to avoid condensate processes within the machine .
G.E.V. Srl is not liable for any troubles occuring due to this problem.
- Humidity : from 20% to 95%.

4.1 ELECTRIC PANEL BOARD

Main switch
Key selector Start/Stop
Test button
Light pump 1 running
Light pump 2 running

4.2 INSTALLATION



GSE evacuation system ,with a low footprint and silent running, can be installed in any place of the operating theatre block .

It is recommended to install the package inside the room or at least protected against atmospheric agents .

If the room is closed a steady air circulation have to be granted .

Do not install the package into wet rooms and / or with water flow .

Do not install the package into rooms where inflammables , explosives and or dangerous products have been stored.

The open side of fillet must be housed against the walls and the virbroumounts have to be regulated.

Do not close for any reasons the aireation flags on structure.

Suction and delivery pipings must have the same diameter of central station connections and possibly a short length .

If length will be more than 10 meters it is advisable to check power, displacement and depression to the outlets .

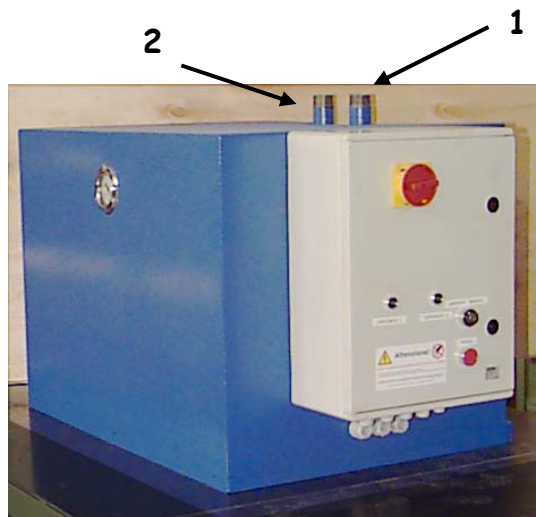
The discharge piping must be properly conveyed outside avoiding its location closer to doors, windows or rooms where peoples stay.

The discharge must be protected by rain or net in order to avoid accidental closures due to stones, leaves or small animals etc.

Incline piping towards outside to prevent the flush back to GSE of any condensate.

4.2.1 CONNECTION

Connect suction piping (Pos. 1, draw. 4.1) to the evacuation system and discharge pipe to (Pos. 2, draw. 4.1) to atmosphere discharge outlet.



Draw. 4.1

Connect by means of a 8 poles multipolar cable the suction central GSE to the remote control switch.

Check the operative electric scheme .



Connect plug to an outlet located at thermal protection and ultra-fast fuses with a proper amperage switch end.

5.1 START UP

Before GSE start up, check proper Volts i.e. (230V – 50Hz).

- Switch on main switch (Pos. 1, draw. 4.2).
- Turn key selector to on (Pos. 2, draw. 4.2).
- Push continuously test button (Pos. 3, draw. 4.2), GSE evacuation package starts up.
- Check vacuum output from vacuum meter (Pos. 4, draw. 4.2).
- Release test button for stopping GSE evacuation system.

Beware

If vacuum meter does not show any vacuum grade it means that pumps rotation direction is incorrect.

5.2 RUNNING

GSE can run automatically if connected to a remote control switch.

Push button “ON” (Pos. 2, draw. 3.2) of remote control switch and the GSE starts up

The vacuum degree shown on the vacuum meter must be over 110 mm/Hg when the utility points are off .

The vacuum degree correction is obtained regulating the flow valve (Pos. 5, draw.4.2)

6.1 FILTERING CARTRIDGE REPLACEMENT

Beware

Before doing any maintenance operation check that the machine is disconnected from the electric mains. Unscrew ring (Pos. 6, draw. 4.2), remove filtering cartridge and replace it with a new one.

Beware

During GSE running pipings get overheated .Cartridge replacement must occur when pipes have reached environmental temperature or wearing proper protective gloves.

Beware

G.E.V. Srl is not liable for the proper running of the package if unoriginal components have been assembled.