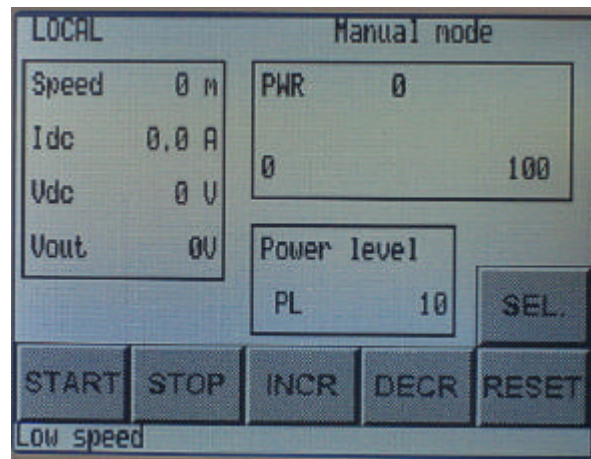


Use and maintenance manual Terminal operator OP3

1 TOUCH PANEL

The TOUCH PANEL displays: the operating mode, the operating values and the generator alarm signals.



In the manual model (Manual mode), the generator output power is set by using the INCR (INCREASE) and DECR (DECREASE) buttons. The relevant values are displayed as ""PL""(POWER LEVEL) in percent (0%=minimum output power, 100%=maximum output power).

PL. can be adjusted from 0 to 100, but the **PW –Output Power-** is the absolute value of effective generator output power and is graphically displayed from 0 to 100.

The other values displayed are:

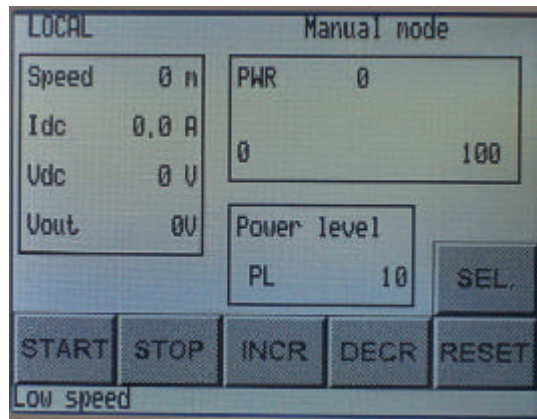
Speed	Machine production speed in metres/minute.
Idc	Inverter operating current in Amperes.
Vdc.	Inverter operating voltage in Volts
Vout	Voltage on the electrodes (effective value rms in Volts)

If a '**Low speed**' (low production speed) or '**Station open**' message is shown on the display, by pressing the **START** button the generator will start automatically when the production speed is greater than the minimum speed set, or when the discharge station or the electrodes have been closed.

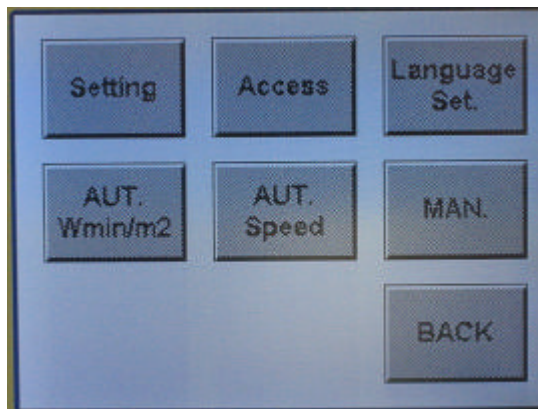
If the production speed drops below the minimum value set, or if the discharge station or the electrodes have been opened, the generator will **STOP** and will **START** again automatically when the production speed is greater than that set and when the discharge station or the electrodes have been closed again.

1.1 SETTING THE PARAMETERS

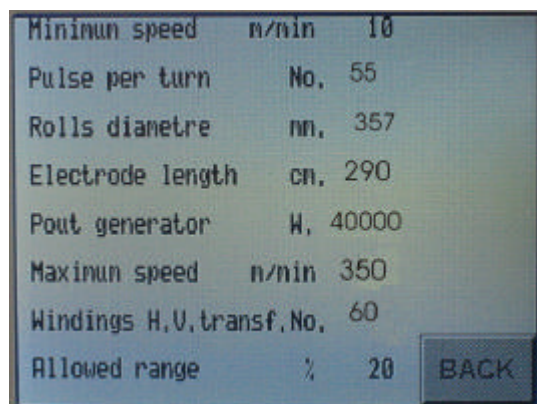
Before starting treatment, certain operating parameters must be set on the following page of the Operator Terminal.



Press the **SELECT (SEL.)** key to enter the parameter settings



Press **Setting**



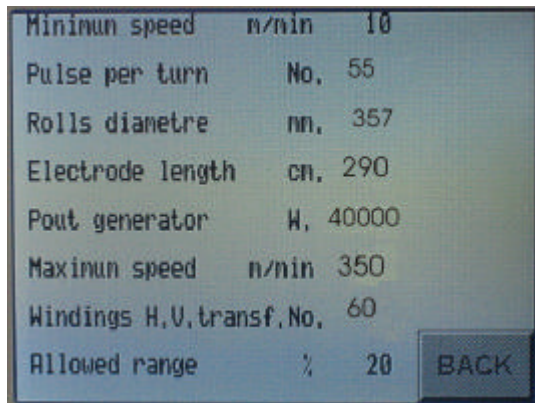
To change the set values:
1 Press the value to be changed.



2 Change the value on the numerical keyboard.

3 Press return  to confirm.

4 Press  to exit.



When the changes have been completed, press BACK.

The variables to be set are:

Minimum speed (m/min)

Minimum speed in metres/minute below which the generator will STOP.

Pulse per turn

(number of pulses per turn detected by the proximity sensor mounted on the discharge roller)

Roller diameter

(diameter of discharge roller in mm)

Electrode length (cm)

Length of discharge electrodes in cm

Pout generator. (W)

Generator maximum nominal power in Watts.

Maximum speed (m/min)

Maximum line speed in metres/minute to adjust the power in automatic mode to the speed (**SPEED**).

This setting is used to obtain maximum generator output power (with PL=100) at the desired line speed.

Winding H.V. transf. (No.)

Number of turns of the output transformer secondary windings (insert the number **of turns** of the output **tap** used)

Allowed range (%)

The permitted variation in generator output power before an alarm signal cuts in.

Setting the DATE and TIME

With the exception of the function keys, press any point on the TOUCH PANEL for a few seconds

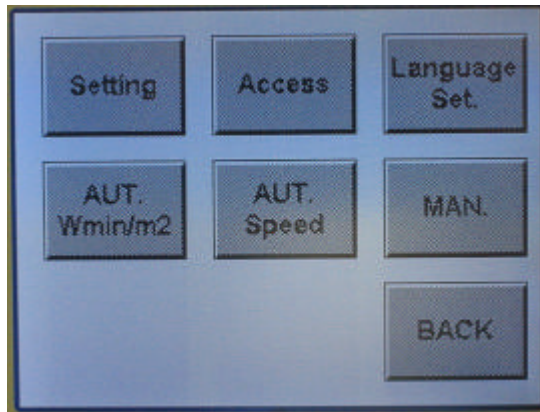


Use the arrows to select TIME and then press RETURN 



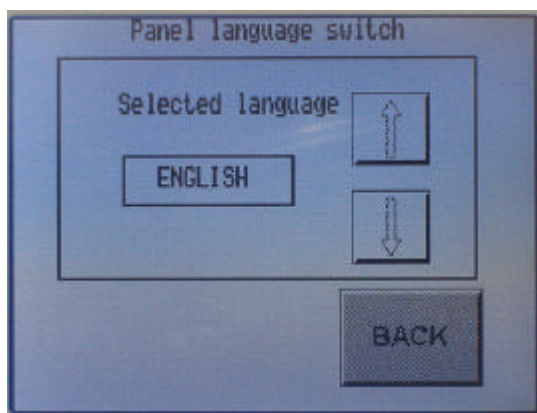
Change the date and time.

Press  to exit.



It is now possible to select:

- 1 the language by pressing Language Set.



Use the arrows to select the language
(press BACK to exit)

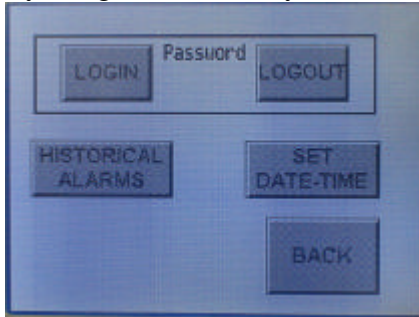
- 2 The generator operating mode

Manual (Man. key)

Automatic with line speed(AUT Speed key)

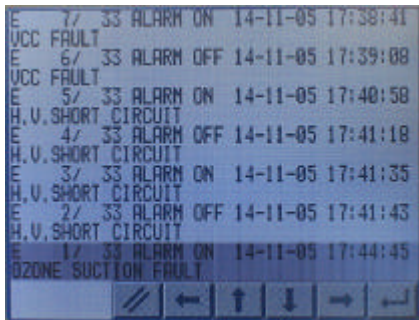
Automatic with specific power (AUT Wmin/m2 key).

By using the Access key, the following page can be displayed:



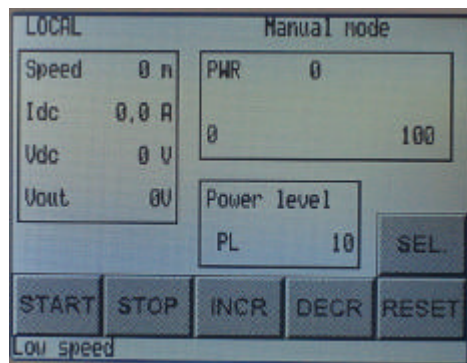
Password and SET DATE-TIME are disabled.

By pressing HISTORICAL ALARMS

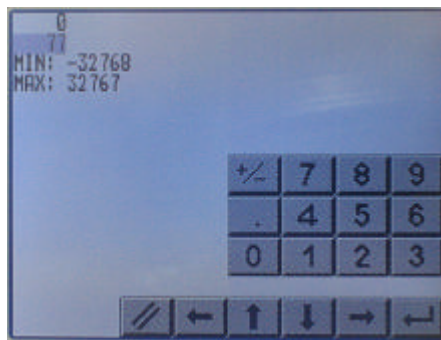


the list of all previous alarms is displayed with the date and time.

1.2 MANUAL MODE



In the manual mode, the generator output power (PW) is set by using the INCR (INCREASE) and DECR (DECREASE) keys. The relevant values are displayed as ""PL""(Power level) in percent (0%=minimum output power, 100%=maximum output power). The power level can be set by pressing the number (in figure PL 10)



Change the value on the numerical keyboard.

Press Return  to confirm.

PL. can be adjusted from 0 to 100, but **PW –Output Power-** is the absolute value of effective generator output and is graphically displayed from 0 to 100.

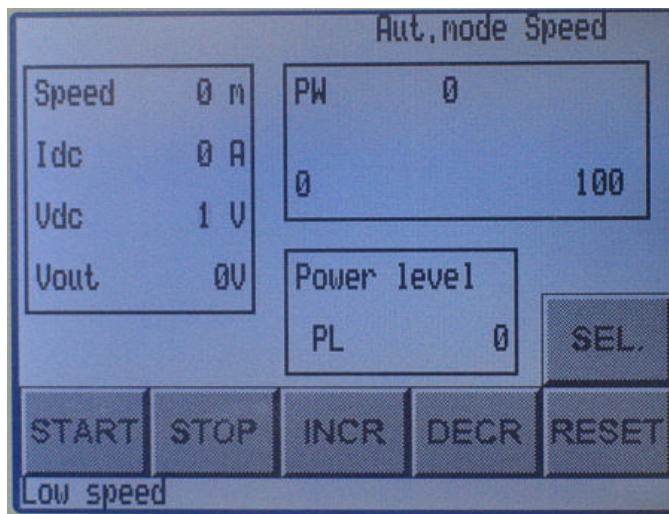
The other values displayed are:

Speed Machine production speed
Idc Inverter operating current in Amperes.
Vdc. Inverter operating voltage in Volts
Vout Voltage on the electrodes (effective value rms in Volts)

If a “**Low speed**” or “**Station open**” message is displayed, by pressing the START button the generator will start automatically when the production speed is greater than the minimum speed set or when the discharge station or the electrodes have been closed.

If the production speed drops below the minimum value set, or if the discharge station or the electrodes have been opened, the generator will STOP and will return automatically to START when the production speed is greater than that set or when the discharge station or the electrodes have been closed again.

1.3 SPEED AUTOMATIC MODE



In the automatic operating mode (**Aut.mode Speed**), the output power, **PW in W**, the power level set, **PL (from 0 to 100)**, and the line speed in metres/minute will be displayed as well as any other information or alarm signals.

Setting **PL**.

PL=100 maximum output power with the line speed set at **Maximum speed**

In the automatic mode, the output power **PW** increases in proportion to the line speed up to the set PL value.

Example for generator MR\B 25K- with output power=25000Watts

SET PARAMETERS

MIN.SPEED= 10m

MAX.SPEED=200m

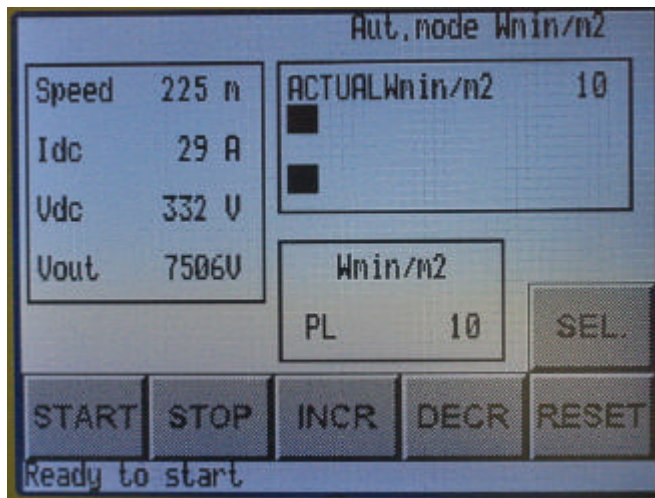
PL=50 SPEED= 100m/min

The generator is ON when the line speed exceeds 10metres/minute and it is OFF when the speed is less than 10metres/minute.

With PL set at 50, at 200m/min generator power is half the maximum (25000W), therefore at 100m/min the output power PW is 12500W.

In these SET PARAMETERS and PL conditions, generator power PW varies linearly from the minimum at 10m/min to the maximum of 12500W at 200m/min.

1.4 SPECIFIC POWER AUTOMATIC MODE



In the automatic operating mode with specific power (**Aut.mode Wmin/m2**), the actual specific power (**ACTUAL**) applied to the film is displayed with the **PL** value set.

PL is the desired specific power applied to the film in **Wmin/m2** and it is the point set for generator power.

The PLC CPU calculates the specific power generated, compares it with the point set and keeps it constant by means of a regulating algorithm (equal to the value set).

This regulating system takes into consideration the production speed and any variations in load resistance (variations due mainly to electrode temperature, the dielectric coating on the roller and the air gap).

By using this operating mode, once the specific power for the desired treatment has been decided, the film is certain to be treated uniformly.

Any conditions that cannot be controlled by the regulating algorithm are indicated by the **POWER ALARM** message.

If the specific power value inserted is too high, in order to maintain the specific power requested, the generator must produce more power than the maximum allowed and the **POWER ALARM** message will also be displayed.

1.5 ALARM SIGNALS

With the exception of **PWR ALARM**, these signals will not allow the generator to operate or it will stop the generator automatically if it is already operating.

Example **PWR ALARM**

Press **ON-MEMORIZE** to memorise the new operating conditions and to reset the alarm.

Alarm messages

Station open

Thermal Switch

Overload

PWR ALARM (alarm indication)

Low speed

Vcc Fault

Vdc Fault

Suction Fault

H.V. discharge

Station open

The discharge station is open.

Thermal Switch

The temperature is too high at the radiators for the generator power components.

Overload

There is an overload.

Causes:

- Voltage discharge to ground.
- Perforation of dielectric coating on discharge roller, or perforation of ceramic bars.
- Loss of insulation on insulators supporting the electrodes.
- Generator fault.

To restart the generator, press **OFF/RESET** and then **ON**.

PWR ALARM

There is a variation in the percentage limit set for output power.

Low speed

Low line speed (lower than setting).

Vcc Fault

Generator fault. No power from the generator.

Causes:

No direct current to supply the generator chopper stage (probable breakage of fuse F4).

Vdc Fault

The chopper stage does not operate.

- Fault in power devices (Igbt, Diodes, H.V. transformer).
- Fault in control circuits.

Suction fault

The ozone suction device does not operate

Causes:

- Intervention of thermal protection on suction device. Check that setting is correct in accordance with the current on the motor plate.
- Intervention of vacuostat. Check correct operation and setting.
- The rotational direction has been inverted.