



# Clemas & Co Ltd

Industrial Cleaning Equipment  
Sales - Hire - Service

## 1400 Sweeper Operation & Maintenance



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## INTRODUCTION & GENERAL WARNINGS

The Genius 1400 sweeper is especially designed to guarantee safety and concern for the environment. The innovative design, the robust and trustworthy structure and the recyclable components make the Genius 1400, a truly unique machine.

Before using the machine, we advise you to carefully read this handbook.

It is an invaluable guide to the characteristics of your machine and will help you use it correctly.

In particular, it provides precious information concerning safety, integrity and concern for the environment.

### INTRODUCTION

This instruction handbook contains guidelines and practical information concerning the use, adjustment and routine maintenance of your new machine.

Your machine has been designed and built to offer the best in terms of performance, comfort and ease of use in a variety of different conditions. Before delivery, your machine has been checked at the factory and by [Clemas & Co Ltd](#) to guarantee that it is handed over to you in perfect working order. To maintain the machine in this condition and ensure problem-free operation, strictly follow the instructions given in the handbook. Before attempting to use the machine, read this handbook and keep it to hand for any future consultation. The words RIGHT and LEFT always refer to the direction in which the machine is travelling. If you have any doubts concerning the machine, do not hesitate to contact [Clemas & Co Ltd](#). We offer you competent personnel, original spare parts and all the equipment you will need. NEVER use the machine without its guards and safety systems. For your safety, make sure all guards and safety systems are closed and correctly mounted before starting the machine.

### GENERAL SAFETY RULES

To prevent damage and bodily harm, strictly follow the safety rules below.

Read the safety labels on the machine and do not cover them for any reason whatsoever. Replace them if they are damaged or become unreadable.

- The storage temperature ranges from 0° to + 50°C.
- The optimal working temperature should range from 0° and + 40°C.
- The ambient humidity must range from 30 to 95%.
- Do not use the machine as a means of transport.
- Do not use solvents or similar substances to clean the machine.
- Avoid running the brushes when the machine is still, to prevent damage to the floor.
- Do not use the machine to draw up flammable liquid.
- If fires break out, use a dry-chemical extinguisher. DO NOT USE WATER.
- Do not bump against shelves or scaffolding when there is a risk of objects falling over.
- Adapt the speed of the machine to the conditions of adherence.
- Avoid using the machine if its stability is not guaranteed.
- If you notice that the machine is not working properly, make sure this does not depend on failure to carry out the routine maintenance operations. If this is not the case, contact [Clemas & Co Ltd](#).
- Always use ORIGINAL spare parts. You can purchase these from [Clemas & Co Ltd](#).
- Disconnect the machine from the mains before carrying out any maintenance operation.
- Do not remove guards that need to be removed with the use of tools.
- Do not wash the machine with direct jets of pressurised water or with corrosive substances.
- Every 200 hours of work, have the machine checked by [Clemas & Co Ltd](#).
- In the event of decommissioning and scrapping, the machine must be disposed of by appropriate waste disposal centres, as established by the law, as it contains toxic – harmful materials (batteries – oil – etc.).

### MODIFICATIONS AND IMPROVEMENTS

The manufacturer company policy is based on the continuous improvement of their products. They therefore reserve the right to apply modifications and improvements whenever they believe these are necessary, without having to upgrade the machines previously sold.

### SAFETY

#### **Accident-prevention is also your responsibility.**

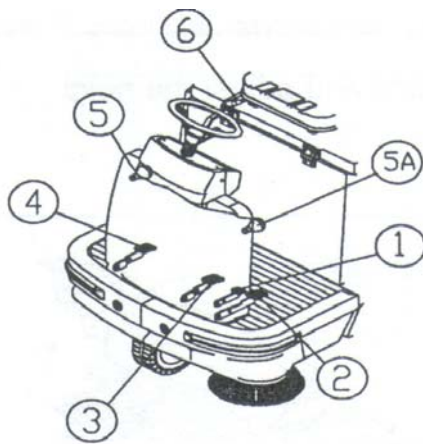
No accident-prevention plan can be effective without the total co-operation of the person directly responsible for machine operation.

Most accidents that occur in a company, during work or transport are caused by failure to observe the basic rules concerning safety.

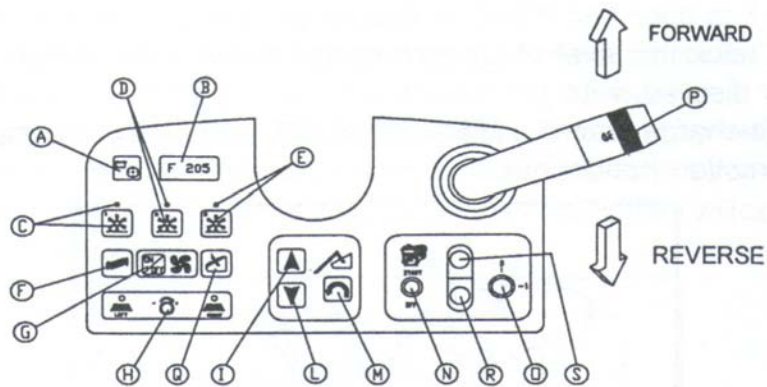
A careful and prudent user is the best guarantee against accidents and will prove to be much more effective than even the strictest accident-prevention plan.

During work, pay attention to the persons standing in the area to clean, especially children.

# The Controls and The Control Panel



1. Brake engagement pedal
2. Parking brake pedal
3. Flap raising pedal
4. Accelerator pedal
5. Right hand side brush control lever
- 5a. Left hand side brush control lever
6. Seat adjustment lever



- A. Selection of displayed data
- B. Display
- C. Key and indicator of work programme 1
- D. Key and indicator of work programme 2
- E. Key and indicator of work programme 3
- F. Filter shaker ON button
- G. ON-OFF button and aspirator motor indicator
- H. Side brush speed adjustment knob
- I. Waste bin raising button
- J. Waste bin lowering button
- K. Waste bin tipping button
- L. Button to start/stop the engine (Dual Version)
- M. Ignition key
- N. Lever to select the forward or reverse gear
- O. Lights ON-OFF – Horn
- P. Waste bin “full” indicator (Optional)
- Q. Fuel Reserve
- R. Engine oil alarm

# Using The Machine

## Turning on the machine

Fit in the ignition key and turn it clockwise. Three zeros will come up on the display for about three seconds, followed by the voltage rating of the battery.

The operator's seat features a safety device that disables traction (forward and reverse) when the operator gets up from his seat.

**NOTE:** Temporary activation of the indicator lights on the console and of the horn is to be considered normal.

Let at least three seconds pass after you have turned off the machine, before turning it on again. Check the state of the batteries on the appropriate display.

The display has two functions: **Voltmeter and Hour Meter.**

The voltmeter features an undervoltage checking function which automatically disables all services, traction excluded, if the battery charge level drops below 20.5V (the code "F 205" will flash on the display).

In this case, recharge the battery (see the "MAINTENANCE" section and the battery handbook).

If the battery charge level is suitably high, you can start your work.

If the machine features a petrol engine, first start the engine.

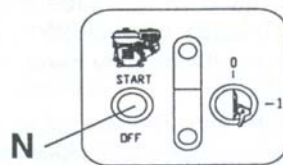


## STARTING/STOPPING THE PETROL ENGINE

To start the endothermic engine, push toggle switch N towards its START position (see switchboard); the toggle switch will flick automatically back to its initial position.

N.B. If the engine does not start immediately, the maximum activation time of the starter motor must not exceed 5 seconds for a petrol engine and 15 seconds for a diesel engine. These activation intervals can be repeated after a short resting time (approximately 8-10 sec).

To stop the motor, flick toggle switch N to OFF.



**When the machine is running with the endothermic engine, make sure the cooling fan is running too. If the alternator overheats, the overheating protection device is fitted and will stop the machine with the C101 error code.**

To display the number of working hours of the machine (hour meter function), press the display selection key once and you will be shown the total number of hours worked. Press the key another time and you will be shown the partial hours and down the key for at least 5 seconds. Press a third time or wait about 10 seconds and the voltage rating of the battery will come up on the display.



To run the machine: select the forward or reverse gear using the lever on the instrument board – marked with the letter 'P'. Then press the accelerator pedal and the machine will start moving. The machine is fitted with an automatic starting – stopping function, which starts and stops the machine on the basis of a pre-established sequence.

AUTO – POWER – ON

AUTO – POWER – OFF

After pressing the emergency button on the right hand side of the instrument board, turn the ignition key (marked 'O' on the diagram of the control panel) to position '1'.

Select one of the following programmes by pressing P1, P2 or P3.

The following functions are automatically activated: centre brush, aspirator, side brushes. All LED's of the selected aspirator and brush working programme will come on at the same time.

After a few seconds, all functions are stopped and the three LED's start flashing: the sweeper is in its AUTO-POWER-OFF mode.

All functions are automatically reactivated when the user presses the accelerator pedal: AUTO-POWER-ON.

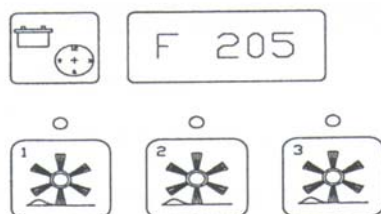
**NOTE:** By releasing the accelerator or putting lever P in its idle position, all functions will be automatically turned off, except the engine, within approximately 6 seconds (AUTO POWER OFF). In this condition, the indicator lights pertaining to the programme selected and that of the aspirator motor will start flashing.

To reactivate all functions, let the machine run forward by pressing the accelerator pedal, without deactivating the selected programme (AUTO-POWER-ON).

You can select a new programme only after you have disabled the previous one.

## USING THE WORK PROGRAMMES

After turning on the machine and starting the engine, if necessary, choose among the three available programmes, the one best suiting your requirements by pressing one of the three keys.



**BUTTON 1** (Light cleaning, indoors, concrete, quartz, smooth floors, etc.)

**BUTTON 2** (Medium cleaning, carpet or other surfaces)

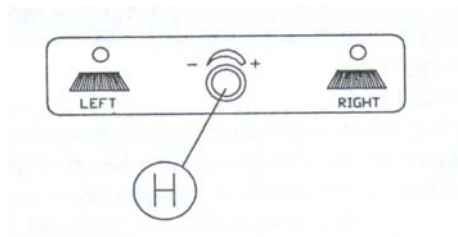
**BUTTON 3** (Heavy duty cleaning, outdoors, asphalt or rough surfaces with rubble, etc)

**NOTE:** The parameters of programmes 1,2 and 3 are factory set. To modify any of the settings, contact [Clemas & Co Ltd](#).

Lower the left and/or right side brush by pulling out and lowering the relevant knob.

**NOTE:** The relevant left or right indicator light will come on. To move the brushes back to their OFF position, pull up the knobs.

The speed of the side brushes can be changed using the adjustment knob shown in the figure.



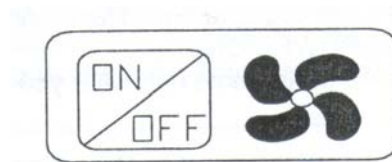
The control lever marked 'P' has the following functions:

1. Forward gear
2. Reverse gear
3. Horn
4. Lights on and off

The machine features a red emergency stop button.

Press this button (the red warning light will come on) to bring all machine functions, engine included, to an immediate stop. To restart the machine, press the red button down and start up the functions requested.

If you are using the machine on wet ground, it is essential to protect the machine's paper filters by turning off the aspirator motor with the ON/OFF button shown in the figure.

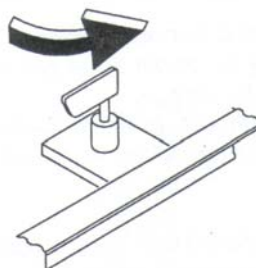


**IMPORTANT:**

**DO NOT RUN THE MACHINE WHILE THE BIN IS RAISED, EXCEPT FOR THE MANOEUVRES NEEDED TO MOVE THE BIN TOWARDS OR AWAY FROM THE WASTE CONTAINER.**

Before pushing the machine when it is off or without its batteries, first turn the key to deactivate the electric traction motor.

Turn and possibly remove the red key inside the battery compartment, as shown in the figure hereby: this operation will disable the self-braking function of the machine.



## FURTHER PERFORMANCES OF THE MACHINE FEATURING AN ENGINE

The version featuring an engine can guarantee the same working efficiency even when the motor is off, for instance when the fuel has run out or when working in closed environments. The working autonomy, in this case, will depend on the capacity (amperes/hour) of the batteries installed, on the intensity of the work programme chosen and on the battery charge status. To guarantee the working life of the batteries, the machine features some safety systems:

1. When the battery voltage drops below 20.5 Volt, all machine functions, with the exception of the traction system, are automatically stopped. When this situation occurs, recharge the batteries or turn on the engine.

2. Protection against excessive battery charging.

Being fitted with a current generator featuring an electronic circuit, that acts as voltage regulator, the machine can correctly charge the battery without damaging it with an excessive charge. In fact, when the battery has been properly charged, it will except no further charging energy.

3. Using the machine with a battery or engine.

Further to the tests effected and the results obtained from the evaluation of the energy consumption of our hybrid system, we can affirm that Genius 1400 DP can work autonomously. In other words, the machine does not have to be stopped to recharge the set of batteries (240 Ah). Tests have been made with all three programmes at the user" disposal, namely P1, P2 and P3, on asphalted surfaces and normal slopes, and the sweeper has worked autonomously. However, being the machine designed also for heavy duty working conditions (slopes of over 20%, extremely rough surfaces to clean), the batteries may need to be recharged.

In this case, we recommend the use of an intelligent battery charge with a IU1a charging curve and a final proportional charge, appropriately designed for this kind of machine and of a suitable size for the battery installed.

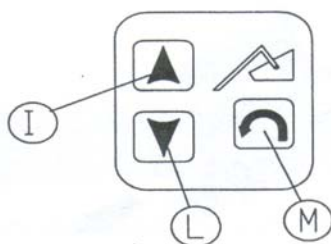
After you have ended your work, disable the selected programme (1-2-3) and turn off the engine by flicking the toggle switch – 'N' to OFF.

Before leaving the machine, make sure that the side brushes are raised from the floor, the parking brake is engaged and that the ignition key has been taken out of the instrument board.

## EMPTYING THE WASTE BIN

This machine can be fitted with visual and acoustic devices signalling when the waste bin is full – see letter 'Q'. When the 'waste bin full' indicator light comes on, at the same time the code CPUU will start flashing on the display. Empty the bin.

To empty the waste bin, press and hold down the consent button located on the left of the instrument board and select the requested function.



1. Press the button on the console – letter 'I' – and hold it down until the requested emptying height has been reached.
2. Move the waste container.

3. Press the button on the console – letter 'M' – and hold it down until the bin has been tipped to enable all its contents to fall out. As soon as you release this button, the bin will automatically return to its horizontal position.

**N.B.** The machine features a safety device that prevents the bin from rotating unless it has reached a safe distance from the machine. In fact, no damage will be caused if the operator presses button M by mistake, i.e. before the bin has reached its pre-established height.

4. Move away from the waste container and press the button, which is marked 'L', so that the bin can gain its initial position (lowered).

## **CLEANING AND SERVICING THE FILTER**

The filter is a very important component of the machine and essential for correct operation. Proper filter maintenance will allow you to obtain the best performance from your machine.

The filter can be cleaned in any of the following three ways:

- 1) By means of the automatic cleaning system

As you select a work programme, the machine will automatically adopt an automatic cleaning cycle for the two filter shakers and the filter, which is based on a pre-established series of time settings.

- 2) By means of an electric filter shaker that is manually started

Just a simple command is needed to keep the filter in perfect working order: press the button marked 'F' and hold it down for a few seconds. Repeat this operation 4 or 5 times. Remember that the cleaner the filter, the better the results of your cleaning session. It is recommended to carry this operation out at the end of each work cycle.

**NOTE:** Dusty Environments.

If you are using the machine in a dusty environment (e.g. sawmills – warehouses where haulage vehicles pass, etc.), it is a good idea to use the filter shaker more frequently.

- 3) By manually cleaning the filter

If operating the filter shaker is not enough to keep the filter clean – and in any case every 20 hours of work – clean the filter manually, make sure it is turned off and that all functions are deactivated. To deactivate this condition, turn the switch marked 'O' to OFF.

- 1° Remove the rear machine panel

- 2° Take the two filters out of their seat by turning the four retainer handles.

- 3° Blow compressed air onto the side of the filter featuring the protective net (at a pressure of 6 bar at the most).

- 4° Refit the filters and the rear panel

## REPLACING LIGHT BULBS

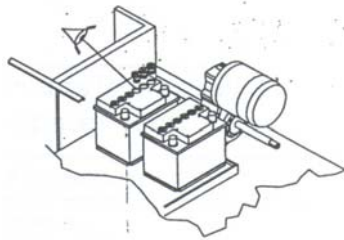
To replace the front light bulb;

- Remove the front cover by loosening the fixing screws.
- Replace the bulb, making sure that the new bulb has suitable electrical features.
- Refit the front cover.

## MAINTENANCE – CHECKING AND RECHARGING THE BATTERIES

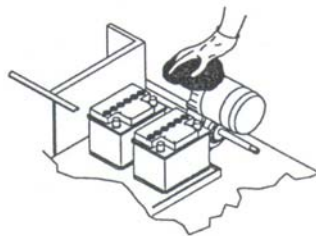
Check the level of electrolyte inside the batteries regularly.

The battery compartment is under the operator's seat. Raise the bonnet and open the caps on the cells. If necessary, top up with distilled water.



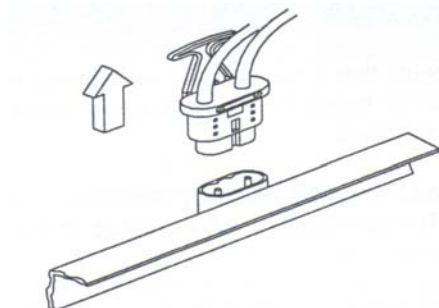
**IMPORTANT:** Check the battery level every 100 hours. After you have filled the battery, close the cells with their caps and clean the top surface.

Pay the utmost attention when you are handling the battery liquid, as it is corrosive. In the event of contact with your skin or eyes, wash with plenty of fresh water and seek medical assistance.

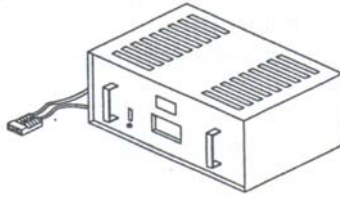


Whenever necessary, charge the battery according to the following instructions:

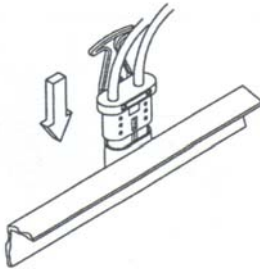
- Turn the machine off with the main key
- Raise the bonnet
- Disconnect the machine's battery connector.



- The battery must be recharged in a sufficiently ventilated area
- Open up all the caps of the battery cells
- Connect the battery connector to the battery charger
- Connect the battery charger to the mains (the mains voltage and frequency ratings must correspond to those of the battery charger).

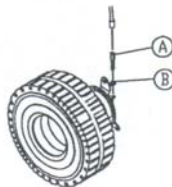


- After charging, disconnect the battery from the charger and hook it up to the machine.
- Put the caps back on and clean the top surface of the battery.



## ADJUSTING THE BRAKE

If the service brake or parking brake is not effective enough, it can be adjusted by acting on the front wheel. Loosen locknut A by turning screw B, then tighten A again.



## SUMMARY TABLES

### MAINTENANCE OF THE BATTERY VERSION

**IMPORTANT:** These operations must be carried out with the machine off and the key removed. All routine and corrective maintenance operations must be effected by competent personnel or at an authorised service centre.

**NOTE:** The life of the battery strictly relates to regular periodic maintenance (checking the level and density of the electrolyte). If the machine has not been used for a long time (for instance 4-6 weeks), it is in any case necessary to recharge the batteries to guarantee that the voltage level never drops below the threshold value of 20.5 V.

If not used, batteries tend to lose their charge.

CHECK	Upon Delivery	Every 30 Hours (or every 2 wks)	Every 50 Hours	Every 100 Hours	Every 400 Hours
Battery liquid and voltage levels	■	■			
Check the brushes (or charcoal) of all electric motors and replace if worn					■
Tightness of the belts	■			■	
Brake adjustment	■			■	
Filter shaker					
Tightness of the nuts and screws					■
State of the side brush			■		
Clean the panel filter			■		
Tightness of the bin, filter, flap gaskets	■		■		
Grease the steering system chains				■	

### MAINTENANCE OF THE DUAL POWER – PETROL VERSION

**IMPORTANT:** These operations must be carried out with the machine off and the key removed. All routine and corrective maintenance operations must be effected by competent personnel or at an authorised service centre.

As far as maintenance work on the engine is concerned, refer to the relevant handbook.

**NOTE:** The life of the battery strictly relates to regular periodic maintenance (checking the level and density of the electrolyte).

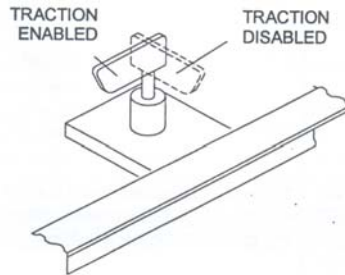
If the machine has not been used for a long time (for instance 4-6 weeks), it is in any case necessary to recharge the batteries to guarantee that the voltage level never drops below the threshold value of 20.5 V.

If not used, batteries tend to lose their charge.

CHECK	Upon Delivery	Twice A Week	Every Week	Every 20 Hours	Every 50 Hours	Every 100 Hours	Every 400 Hours
Battery liquid and voltage levels	■		■				
Clean the engine air filter					■		
Clean the panel filter					■		
Oil and engine	■	■					
Replace the engine oil				1 <sup>st</sup> Time		■	
Check the brushes (or charcoal) of all electric motors and replace worn							■
Tightness of the belts	■					■	
Brake adjustment	■					■	
Filter shaker							
Tightness of the nuts and screws							■
State of the side bin					■		
Tightness of the bin, filter, flap gaskets	■				■		
Grease the steering system chains						■	

## SAFETY AND TROUBLESHOOTING

The machine features some safety functions that have been described in the chapters concerning the use of both versions (with or without an engine): for instance, the system for stopping all functions to prevent the battery from running out or the possibility of turning the red key to disable the self-braking function in the event that the machine has to be pushed.



See Safety Code C999

## TROUBLESHOOTING TABLE

Safety Code	Machine Behaviour	Fault	Remedy
C101	All machine functions and the traction system are blocked	The temperature of the traction motor has risen above 95°C or the alternator temperature has risen above 150°C	If you have driven the machine up a slope, let it cool down for 20 minutes <ul style="list-style-type: none"> <li>• Make sure the cooling fan is running</li> <li>• Make sure the brake is disengaged</li> <li>• Make sure the traction wheels run freely</li> </ul>
C102	The machine does not start or stops if it was running	There may be a problem affecting the traction system or the fuse	Turn the machine off, wait 5 minutes and try again. If the C102 situation persists, call the service centre
C103	A warning message is flashing on the display and the horn sounds off	The temperature of the traction dissipater is at the check temperature 95°C	If the ambient temperature is high, stop the machine and wait 20 minutes before restarting
C104	All machine functions stop	The temperature of the electronic control circuits is very high (105°C)	If the ambient temperature is high, stop the machine and wait 20 minutes before restarting. If the situation persists, call the service centre
C105	The machine does not start	Wrong key-accelerator sequence	Leave the accelerator in neutral position before turning on the machine
C106	The machine does not start	Interruption of a cable in the potentiometer of the accelerator pedal	Check the connections of the accelerator pedal potentiometer or the status of the latter
C203	A warning message is flashing on the display and the horn sounds off	The temperature of the centre brush electronic control circuits is very high (95°)	See remedy for code C103
C204	All machine functions stop	The temperature of the centre brush electronic control circuits is very high	See remedy for code C104
F205	All machine functions stop, except the traction system	The battery is flat	Recharge the battery (see the maintenance chapter). This code applies to the acid battery
F215	All machine functions stop, except the traction system	The battery is flat	See the remedy for code F205. This code applies to the gel battery
F500	The display is flashing	The centre brush is worn	Replace the brush
C999	The machine does not start	The red key for disabling the self-braking function has been removed. Possible problem affecting the cables of the traction motor	Turn the machine off. Insert the red key and turn it clockwise. Check the cables of the traction motor
CPUU	The display is flashing	The waste bin is full	Empty the waste bin
AC50	The display is flashing	Excessive power draw or centre brush lock	Check the operating conditions of the centre brush

# TEKNOVA mod. Genius 1400 – Technical Specifications

Version			
	1400 E (Battery)	1400 DP-P (Petrol)	1400 DP-D (Diesel)
<b>Maximum Sweeping Capacity</b>			
With 1 and 2 side brushes	8250 – 10500 m <sup>2</sup> /h		
<b>Sweeping Paths</b>			
With 2 side brushes	1400 mm		
With 1 side brush	1100 mm		
<b>Main Brush</b>			
Length	800 mm		
Diameter	330 mm		
Type of transmission	Electric motor – 500 Watt		
Pressure adjustment <small>Patented</small>	Electric actuator equipped with an automatic self levelling system		
Material (standard)	Polypropylene		
Brush replacement	Without the use of tools		
<b>Side Brush/es</b>			
Diameter	510 mm		
Rotation speed	Equipped with speed adjustment on the dashboard – from 50 to 120 rpm		
Type of transmission	Electric motor – 90 Watt		
Pressure adjustment	Mechanical		
Material (standard)	Polypropylene		
Brush replacement	Without the use of tools		
Sweeping in curves <small>Patented</small>	Automatic brush retraction whilst turning that completely covers sweeping path		
<b>Dust Flap For Large Debris</b>			
Debris passage height	100 mm		
Operator command	Pedal positioned on left hand side		
<b>Waste Hopper</b>			
Volume	135 litre		
Maximum dumping height	At all heights up to 1430 mm		
Type of dumping system	Electro-hydraulic – 400 Watt		
<b>Dust Vacuum</b>			
Air flow	670 m <sup>3</sup> /h		
Type of fan transmission	Nr. 2 electric motors – Nr. 2 x 130 Watt		
<b>Dust Filter</b>			
Type	2 independent panel filters in separate vacuum areas		
Filtering grade	5 micron		
Filter surface	6 m <sup>2</sup>		
Self cleaning system <small>Patented</small>	Programmable with alternate cycles that doesn't stop vacuum dust control		
Filter replacement	Without the use of tools		
<b>Filter Shaker</b>			
Self cleaning system	Automatic (programmable) or manual by switch placed on the dashboard		
Motor power	Nr. 2 electric motors – Nr. 2 x 90 Watt		
<b>Combustion Engine</b>			
Dual Power System <small>Patented</small>	-	Hybrid power system	
Manufacturer and model	-	Honda GX 200	Lombardini 15 LD 350
Capacity	-	160 cc	350 cc
Maximum power	-	4,9 kW (6,5 Hp)	7,3 kW (9,9 Hp)
Cooling system	-	Air	Air
Fuel tank capacity	-	4 litre + 1 litre reserve = 5 litre	
Running time	-	5 h	6,5 h
Automatic starter	-	Yes	Yes
Oil alert system	-	Automatic engine stop in case of low oil level	

## TEKNOVA mod. Genius 1400 – Technical Specifications Continued

Version			
	1400 E (Battery)	1400 DP-P (Petrol)	1400 DP-D (Diesel)
<b>Alternator</b>			
Manufacturer and power	-	Bosch – 2 kW (80 Ah/28 V)	
<b>Battery Supply</b>			
Maximum battery capacity	360 Ah (steel case)	240 Ah (4 x 6V)	
Maximum running time	5,5 h	3 h*	
Maximum running time “Dual Power”	-	Petrol 5 + 3 batt. = 8h*	Diesel 6,5 + 3 batt. = 9,5h*
*Maximum battery charger needed	40 Ah	30 Ah	
<b>Electrical System</b>			
Voltage	24 Volt		
Circuit protection	Automatic protection system on all motors		
4 number digital display	With battery charge indicator, hour counter (total/partial) and 14 auto diagnostic codes		
Front lights	With low and high beam		
<b>Traction</b>			
Type of transmission	Motor with reduction gear and rear differential		
Motor power	1000 Watt		
Maximum speed	7,5 Km/h		
Maximum climbing capacity	20 %		
<b>Wheels</b>			
Type and diameter – front	1 Superelastic – 315 x 116		
Type and diameter - rear	2 Superelastic – 315 x 116		
<b>Steering</b>			
External steering radius	1750 mm		
<b>Brakes</b>			
Service brake	Drum on front wheel		
Parking brake	Drum on front wheel		
<b>Chassis</b>			
Material and treatment	Fe360 steel – fully coated with eposidic powder paint		
<b>Weight &amp; Dimensions</b>			
Length / width / height	1600 x 1080 x 1280 mm		
Empty weight without batteries	465 Kg	512 Kg	540 Kg
Battery weights	135 – 300 Kg	45 – 135 Kg	45 – 135 Kg
<b>Ergonomics</b>			
Seat	Adjustable and with armrests		
Steering wheel	With knob to ease manoeuvres		
Traction pedal	Complete foot size and well positioned ergonomically		
Controls	Easily understood – by the means of 1 switch sweeping functions are operated		
<b>Safety</b>			
Emergency switch	Easy to reach and stops all functions on the machine		
Acoustic warning	Operates in reverse gear		
Total “Auto” stop	If the machine is abandoned, traction and all functions will stop immediately		
Functions “Auto” stop	If the traction pedal is left still for more than 5 sec. all sweeping functions stop		
Beacons	Equipped with two beacons		
Hopper dumping operations	Dumping operations force the operator to use two hands		
Waste hopper	Double safety system whilst tilting: whilst raising and whilst lowering		
<b>Major Accessories Upon Request</b>			
Left hand side brush	√		
Overhead guard	√		
LPG system	-	√	-

\* Note on the “Dual Power” versions: upon use in battery mode the machine is always to be equipped with a battery charger

*Note: These specifications are for guidance only and can change without due notice.*