

# USE AND MAINTENANCE MANUAL

 **FIMAP®**



**FS50 B-BT**  
**FS50 H-HT**

ED. 05-2010

EN

ORIGINAL  
INSTRUCTIONS  
Doc. 10024515  
Ver. AA



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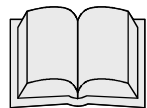
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#### **Symbols used in the manual**

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Symbol of the book open with letter i  
It points out that this document is a manual of instructions.



Symbol of the open book  
It points out to the operator to read the manual of use before using the machine.



Symbol of warning  
Read attentively the sections preceded by this symbol for the safety of the operator and the machine

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## SUMMARY

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## On consignment of the machine

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When the machine is consigned to the customer, an immediate check must be performed to ensure all the material mentioned in the shipping documents have been received and moreover to find out that the machine has not suffered damage during transportation. If damage has occurred, get the shipping agent to verify immediately the amount and nature of the damage suffered and at the same time inform our claim department. It is only by prompt action of this type that compensation for damage may be successfully claimed.

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## Introduction

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Any machine can work efficiently only when used properly and maintained in fully efficiently working order. We therefore encourage you to read this instruction manual thoroughly and to refer to it whenever difficulties arise while working with the machine. Additionally we inform you that our customer service in co-operation with our agents are always at your complete disposal for any questions or for direct intervention.

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## Data for identification

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For Technical service or request of spare parts, cite always the model, the version and the serials number which is on the proper serial plate.

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## Technical description

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FS50 H-HT is a sweeping machine operated by a petrol engine and it is meant for cleaning both indoor and outdoor surfaces paved with tiles, cement or asphalt.

FS50 B-BT is a battery-powered electric sweeping machine used to clean both interior and exterior surfaces paved with concrete and asphalt or covered with tiles. It is designed to work on dry surfaces but can also work on wet surfaces if the suction system is kept closed.

Machines are provided with: a central brush to brush up and collect dirt, a side brush for cleaning corners, a suction system with a filter to prevent dust from being blown into the atmosphere and a dirt collection bin.

Do not use the machines for other purposes but the above mentioned.

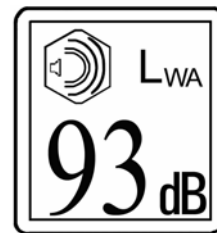
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## Serial number plate

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FS50 B-BT



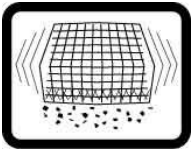
FS50 H-HT



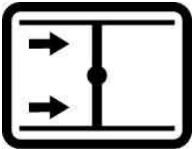
<b>TECHNICAL DESCRIPTION</b>	<b>U/M</b>	<b>FS50 H</b>	<b>FS50 HT</b>	<b>FS50 B</b>	<b>FS50 BT</b>
Cleaning width without side brush	mm	500	500	500	500
Working capacity	m <sup>2</sup> /h	2275	2600	2275	2600
Maximum hill climbing	%	5	10	5	10
Size of central brush	mm	500x265	500x265	500x265	500x265
Volume of dirt hopper	l	40	40	40	40
Gas engine (Honda)	HP	3	3	-	-
Electric engine	V	-	-	12	12
Electric engine	W	-	-	600	600
Filter surface area	m <sup>2</sup>	2,5	2,5	2,5	2,5
Traction		-	meccanico	-	meccanico
Forward speed	km/h	0 ÷ 3,5	0 ÷ 4	0 ÷ 3,5	0 ÷ 4
Machine length	mm	1430	1430	1430	1430
Machine height	mm	1000	1000	1000	1000
Machine width	mm	660	660	660	660
Battery	V/Ah	-	-	12/140	12/140
Battery tray dimensions	LxIxH	340x175x220	340x175x220	340x175x220	340x175x220
Battery weight	kg	-	-	28,5	28,5
Machine weight (empty and without battery)	kg	70	78	67	65
Noise level (IEC 704/1)	dB (A)	74	74	68	68
Vibration level	m/sec. <sup>2</sup>	1,2	1,2	0,12	0,12



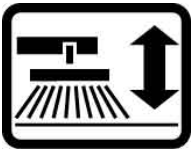
## SYMBOLS USED ON THE MACHINE



Filter shaker



Suction interruption



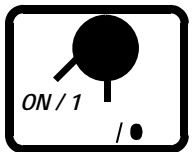
Side brush



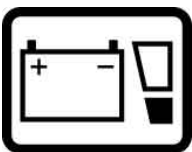
Wearing the protection headset



Pay attention to hot parts



On/off (battery-operated machine only)



Indicates the battery charge level (battery-operated machine only)



## GENERAL SAFETY RULES

### The rules below must be followed carefully in order to avoid injury to the operator and damage to the machine

- Read thoroughly all labels on the machine, do not ever cover them and replace them immediately when damaged.
- Read operating instructions WITH DUE CARE before starting up the machine or performing maintenance.
- The best working conditions are at a temperature ranging from -10° and + 40°C and with humidity between 30% and 95%. For storing the machine temperatures from -25° e +55° C are tolerated.
- Turn the machine off and wear protective gloves before performing any repair or maintenance.
- The use of the machine within closed premises must be in compliance with the regulations in force in the country where the machine is used.
- Before refuelling always switch off the engine. Let it cool down a few minutes before starting refuelling.
- Do not touch discharge system, cylinder or other parts subject to overheating. You could get burnt.
- Do not use the machine as a means of transport.
- Do not ever use the machine for different purposes than those indicated and in particular do not use the side brush to polish shoes or any other object.
- Do not use the machine in explosive atmospheres
- Never use the machine to sweep up burning materials (burning cigarette butts, etc.).
- Never use the machine to collect toxic dusts or debris.
- In case of fire use a dry powder extinguisher. Never use water.
- Do not place anything containing liquids on the machine.
- Always make sure that working surfaces, slabs and ramps can support machine weight.
- While working, keep an appropriate safety distance from persons present on the working area, in particular from children.
- Do not put hands inside the machine while it is working.
- Do not remove fairings and/or protections while the machine is working.
- Do not operate the machine without the protections.
- Do not come close to the machine wearing clothes, which could get entangled. Do not EVER wear scarves, shawls, foulards and wide clothes in general.
- Wear the headset to protect hearing when you operate with petrol engine machines.
- Do not suck in any ropes, iron wires or cables: they could get entangled to the central brush and cause friction.
- Should you single out any anomalies of the machine, we invite you to adjust or to repair the machine only in presence of qualified personnel. Otherwise, especially in case of anomalies to electric parts, ask for assistance to FIMAP Customer Service.
- In case you need spare parts, always ask for FIMAP original spare parts to our agent or Customer Service.
- Do not ever damage any safety device and check them up regularly.
- Do not wash the machine with direct water jet or with corrosive liquids or substances.
- Turn the machine off whenever dangerous malfunctions arise.
- Do not hit any shelving or scaffolding to prevent objects from falling.
- Do not exceed the declared hill climbing capacity otherwise the machine could become unstable and have braking problems.
- Machine is to be used by qualified personnel only.
- Before using the machine, make sure that all doors and covering are positioned as shown in this use and maintenance manual.
- For the discharge of collected materials, carefully keep to the law in force.
- To avoid non-authorized use of the machine please remove the ignition key when the machine is left unattended
- Do not vacuum inflammable and/or explosive liquids or substances.
- Do not take off the pieces which require the use of tools to be removed.
- The machine should not be abandoned, because of the presence of toxic-harmful materials (batteries, oil etc.). This disposal must be subject to the rules which provide for its scrapping in appropriate centres.
- Disconnect the battery before cleaning or attempting any maintenance procedure on the machine.



## PREPARATION OF THE MACHINE

### 1. UNPACKING THE MACHINE

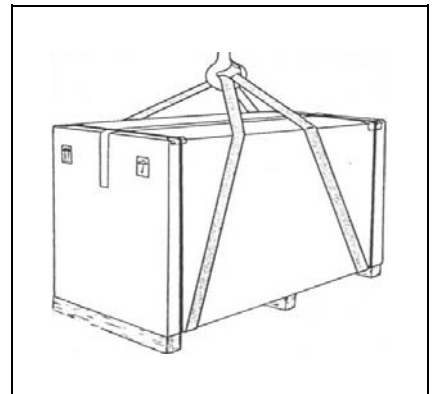
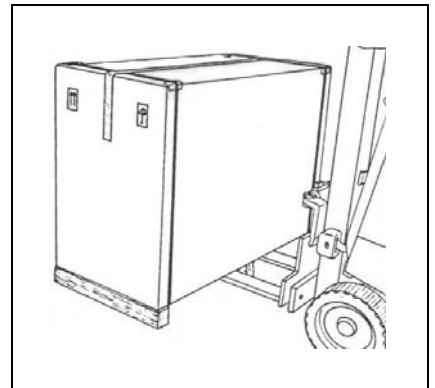
The machine is delivered packed on pallet. To move it use a fork truck or a pulley block with sling. To remove the package proceed as follows:

- Remove the fixing tapes.
- Remove the metal staples at package base.
- Take the cardboard box off.

Package size: cm 153x76x119

Weight of packed machine FS50 B-BT: P = 95 Kg

Weight of packed machine FS50 H-HT: P = 103.5 Kg



### 2. SLIDING THE MACHINE DOWN THE PALLET

- Place a sliding board near the pallet.
- Pull the machine backwards and make it pass over the blocking ledges.
- Slide the machine down along the board.



### 3. REFUELLING (GAS ENGINE MACHINE ONLY)



**ATTENTION:** Before refuelling you should carefully read the information contained in the engine's specific OPERATING AND MAINTENANCE INSTRUCTIONS, delivered together with the machine.





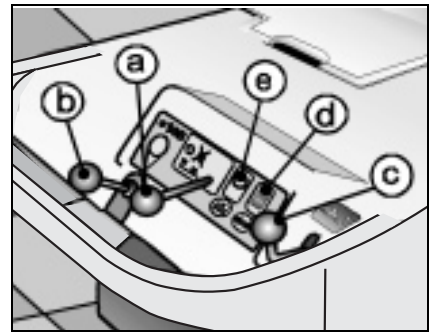
## PREPARATION OF THE MACHINE

### 4. INSTALLING THE BATTERY (BATTERY OPERATED MACHINE ONLY)

We recommend, in order to have good operating autonomy, installing a 12Vx140Ah/20h battery. Make sure that the battery is charged before installing.



**ATTENTION:** carefully follow the battery constructor or distributor's instructions for the maintenance, the first charge and the daily recharging. Professionals must carry out all the installing and maintenance procedures.



Installation instructions:

- Turn push-button (d) to off.
- Open the machine cover
- Put the battery in its compartment.
- Connect the positive and negative connections as shown in the figure.
- Close the cover.

To remove the battery please follow the above mentioned instructions in reverse



### 5. CONNECTING BATTERY CHARGER

Under the bonnet you find the connector where the battery charger connectors shall be connected. The coupling connector is delivered in the bag together with this instruction manual and it should be mounted on the battery charger cables, paying attention to polarity.



### 6. BATTERY RECHARGING

To avoid permanent damage to the batteries, do not ever allow them to run down completely and recharge them within few minutes after the battery indicator, (e) starts flashing.



**ATTENTION:** To remove the battery please follow the above mentioned instructions in reverse .



**ATTENTION:** Do not ever allow batteries to run completely down, even when the machine is not used. During recharging check the electrolyte level and add distilled water, if necessary.



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## OPERATING THE MACHINE

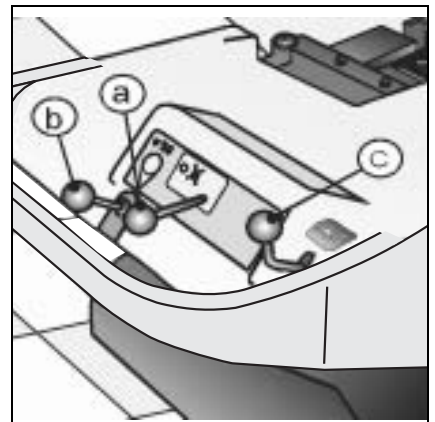
### 7. WORKING POSITION

The operator stands on the ground to operate the machine, moving behind it and holding it by its handle.



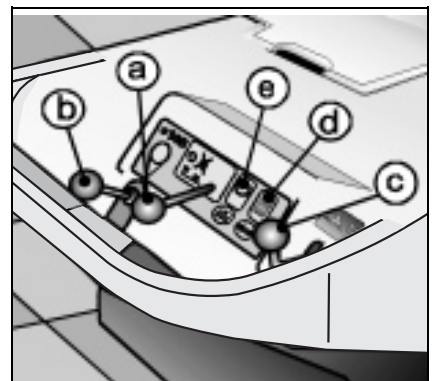
### 8. CONTROL COMPONENTS AND THEIR POSITIONS

- Suction off/electric filter shaker (optional in the battery-powered version) (a): this moves a flap to close off the fan's suction duct, at the end of the run the filter shaker is activated.
- Filter-shaker/locking lever (b): manual control to shake dust off the filter and to block its support bracket during maintenance procedures.
- Side brush lever (c): pull this lever out to lift the side brush. Push the lever up to release it and lower the brush.



#### BATTERY OPERATED MACHINE ONLY

- On/off push button (d).
- Battery charge signal (e).



### 9. START UP

#### GAS ENGINE VERSION

Start the engine following the information given in the engine's specific OPERATING AND MAINTENANCE INSTRUCTIONS.

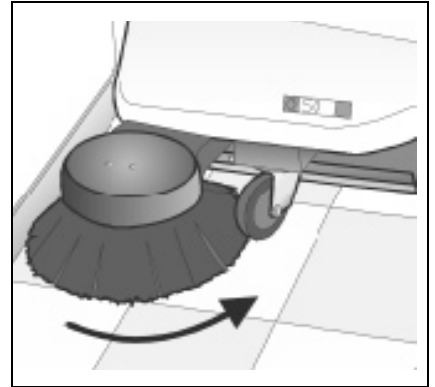
#### BATTERY-OPERATED MACHINE

Turn the on/off push button (d) to "on".



## USAGE

As the side brush is not provided with suction, use it on borders only.

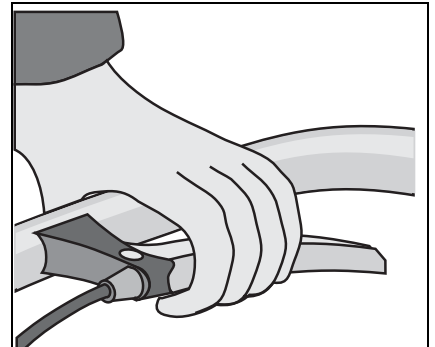


Push the machine to move forward.

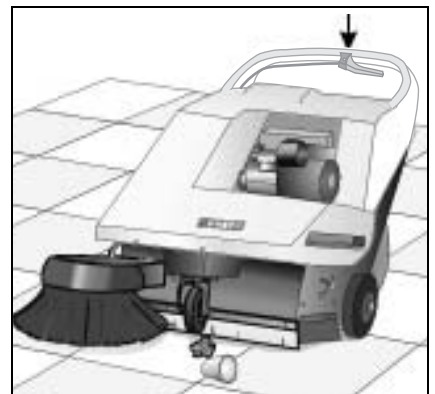


### TRACTION VERSION

Pull the traction handle to move forward.



In case of bulky waste, press down on the handle to raise the front of the machine, to allow the central brush to sweep it up.



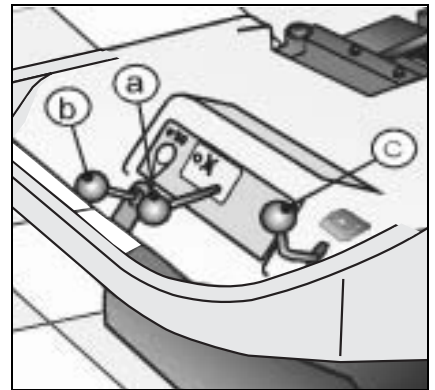


## USAGE

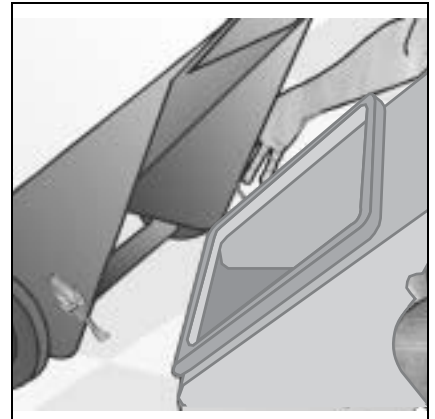
For efficient suction clean the filter approximately every 10 minutes. Proceed as follows:

- turn suction off (lever a);
- actuate manual filter-shaker several times (lever b);
- for the electric filter-shaker version, when lever (a) stops, pull it for a few seconds
- turn suction back and start working.

Turn suction off (lever a) when you are about to start working on wet or damp floor surfaces (for the electric filter-shaker version, pull the lever without switch on the motor).



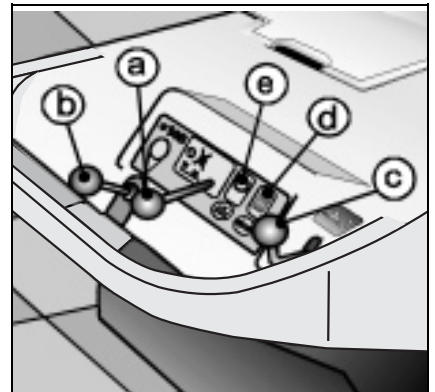
Periodically check the dirt collection bin, pulling it out from the machine after releasing its hooks. Empty it as necessary. It should be remembered that the weight of collected dirt is proportional to the weight of swept materials.



### BATTERY OPERATED MACHINE ONLY

Check the battery lever indicator (e):

- red = run-down battery
- green = charged battery.





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## UPON COMPLETION OF WORK

### GAS ENGINE VERSION

- Stop the engine, carefully following the information given in the engine's specific OPERATING AND MAINTENANCE INSTRUCTIONS.

### BATTERY OPERATED VERSION

- Stop the machine by turning the on/off push-button (d) to "off"

### BOTH VERSIONS

- Always park the machine on the level.
- Actuate the filter-shaker several times.
- Empty the waste bin.



## MAINTENANCE OPERATIONS



**ATTENTION:** Before any adjustment and/or maintenance procedure always switch off the machine.



**ATTENTION:** Disconnect the battery before cleaning or attempting any maintenance procedure on the machine.

### 10. CLEANING THE FILTER

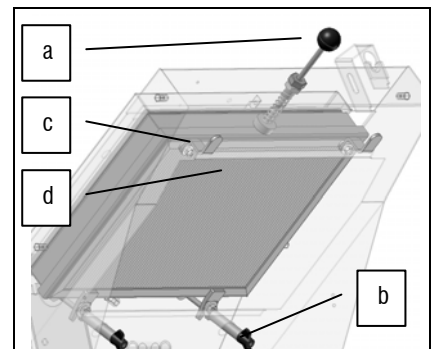


**ATTENTION:** always wear glove while doing this operation to avoid contact with dangerous substances.

Carefully clean the filter once a week by proceeding as follows

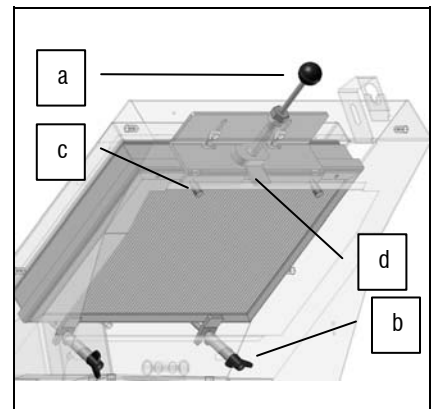
### 11. CLEANING THE FILTER – FIXING PINS VERSION

- Turn the machine off.
- Remove the debris hopper.
- Lift the filter-shaker (a) and clamp it in its lifted position using the special pin furnished with the machine.
- Loose the inferior knobs (b).
- Turn the screws (c).
- Pull out the filter panel (d)



### 12. CLEANING THE FILTER – CLAMPS VERSION

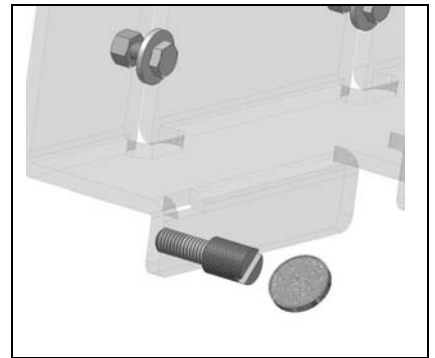
- Turn the machine off.
- Remove the debris hopper.
- Lift the filter-shake and clamp it in its lifted position using the special pin furnished with the machine (a)
- Loose the inferior knobs (b).
- Loosen the superior registers (c) using a coin.
- Lift the clamp and block it turning the filter shaker
- Pull out the filter panel (d)



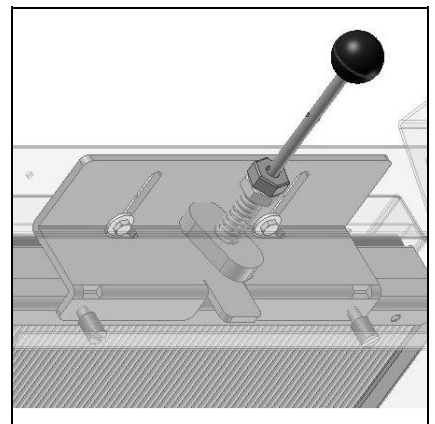


## MAINTENANCE OPERATIONS

Unlock of the registers.

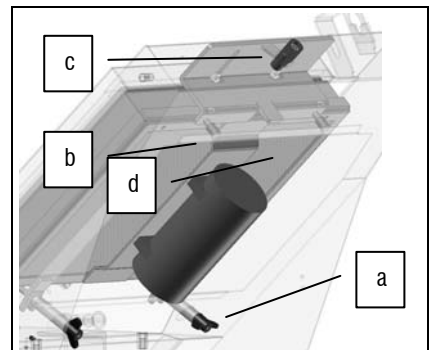


Block the pressure stirrup.

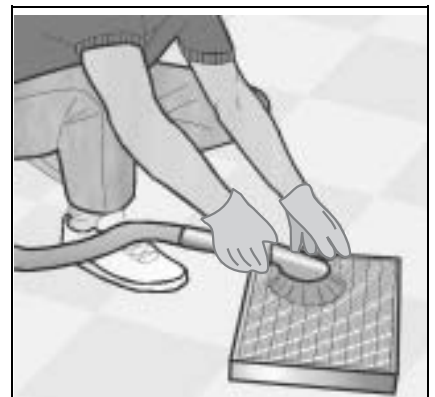


### 13. CLEANING THE FILTER – CLAMPS AND FILTER SHAKER VERSION

- Turn the machine off.
- Remove the debris hopper.
- Disconnect the red connector of the filter shaker motor
- Loosen the inferior knobs (a).
- Loosen the superior registers (c) using a coin (b)
- Lift the clamp and block it turning clockwise the plastic lever (c)
- Pull out the filter panel (d)



- Carefully clean the filter using a vacuum cleaner or by manually shaking it.
- Reassemble by repeating the previous procedures in reverse order.





## MAINTENANCE OPERATIONS

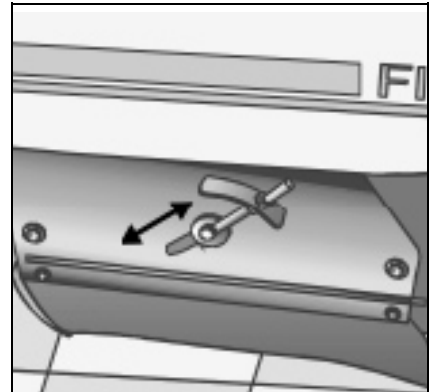
### 14. ADJUSTING THE SIDE BRUSH

To adjust the brush height, regulate the screw (a) placed inside the brush bearing bracket (b). The brush should be pressed on the floor for about 2 cm.



### 15. ADJUSTING THE CENTRAL BRUSH

The central brush should work pressed on the floor for about 7/8 mm. To adjust its height, regulate the two register screws (a) and (b) on both sides of the machine. Adjusting the central brush make sure to keep it aligned.



### 16. ENGINE MAINTENANCE

Keep scrupulously to the engine maintenance guidelines given in the engine's specific OPERATING AND MAINTENACE BOOKLET.



### 17. MAINTENANCE PROCEDURES REQUIRING THE INTERVENTION OF PROFESSIONALS

For the following maintenance procedures we invite you to ask for assistance to our Customer Service, organised in co-operation with our agents, since these procedures require a specific technical competence and appropriate equipment.

- Replacing the central brush.
- Replacing the side brush.
- Replacing the belts.





## TROUBLE SHOOTING GUIDE:

### 18. THE CENTRAL BRUSH DOES NOT CLEAN

- The brush is worn or improperly positioned: adjust its position or, if necessary, have it replaced at your nearest FIMAP service centre.
- The waste bin is full: empty it.
- The brush does not rotate because the belt is broken: have it replaced at your nearest FIMAP service centre.

### 19. THE MACHINE CREATES AIRBORNE DUST WHEN WORKING

- Flaps ensuring good suction are torn. Replace them.
- The filter is clogged: thoroughly clean the filter.
- The front flap is broken and the machine throws heavy dirt and waste forward: replace the front flap.

### 20. EXCESSIVE OR ABNORMAL NOIS FROM THE CENTRAL BRUSH

- Material is wound around the brush: remove it.

### 21. ACID SPILLAGES FROM THE BATTERY

In case of any acid spillages resulting from a split or otherwise faulty battery, please replace it immediately.



**ATTENTION:** Use rubber protective gloves when handling the battery. The sulphuric acid in the battery is highly corrosive. Avoid any direct contact with skin.



## SCRAPPING OF THE MACHINE

The machine is composed of: iron materials, plastics, rubber. The battery-operated version of the machine is also equipped with a battery which may have to be replaced several times during the working life of the machine. We advise you use authorised waste collection and disposal agencies to ensure ecological waste disposal when replacing the battery or dismantling the machine.



**ATTENTION:** Remove the battery from the machine if it is to be scrapped or otherwise disposed of.



## EC DECLARATION OF CONFORMITY

The undersigned company:

**FIMAP S.p.A.**

Via Invalidi del Lavoro no.1

37050 Santa Maria di Zevio (VR)

Declares under its sole responsibility that the

### **MOTORSWEEPER MACHINE mod. FS50B, FS50BT, FS50H, FS50HT**

complies with the requirements of the following Directives:

- 2004/108/EC: Electromagnetic Compatibility Directive and subsequent modifications.
- 2006/95/EC: Low Voltage Directive
- 2000/14/CE: Directive 2000/14/ce of the european parliament and of the board of the 8th may 2000. Acoustic environment emission of machines and equipment to be used out in the open

It also complies with the following standards:

- EN 60335-1: Safety of household and similar electrical appliances - Part 1: General requirements.
- EN 60335-2-72: Safety of household and similar electrical appliances - Part 2: Particular requirements for automatic machines for floor treatment for commercial and industrial use.
- EN 12100-1: Part 1: Safety of machinery - Basic concepts, general principles for design. Basic terminology and methodology.
- EN 12100-2: Part 2: Safety of machinery - Basic concepts, general principles for design. Technical principles and specifications.
- EN 61000-6-2: Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments.
- EN 61000-6-3: Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.
- EN 50366: Household and similar electrical appliances - Electromagnetic fields - Methods for evaluation and measurement.

Falling within the power sweeper category (as defined in enclosure I no.46 of the Directive 2000/14/EC of the European Parliament and Council), it is subject to noise marking only.

The conformity evaluation was carried out in accordance with enclosure III.B.46 of the said directive.

The tests were performed by the following notified body:

Nemko Spa Via Trento 116 I - 20046 Biassono (MI).

Technical documents is kept at the Technical department Fimap S.p.A., Via Invalidi del Lavoro, No. 1 – 37050 Santa Maria di Zevio, Verona, Italy.

The measured and guaranteed sound power level is indicated in the following table.

MODEL	LpA [dB(A)]	LwA, guaranteed [dB(A)]
FS50 B	81,74	85
FS50 BT	81,74	85
FS50 H	89,3	93
FS50 HT	89,3	93

Santa Maria di Zevio, 10.05.2010

FIMAP S.P.A.  
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