



## USER MANUAL

### S 48B



**ATTENZION! PLEASE READ THIS MANUAL BEFORE USING THE MACHINE**

**ING. O. FIORENTINI INDUSTRIAL  
CLEANING MACHINES**



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## **MACHINE DELIVERY**

AS SOON AS THE MACHINE IS DELIVERED, PLEASE CHECK THAT THERE IS NOT ANY DAMAGE DUE TO TRANSPORT.

IN CASE OF DAMAGE OR MISSING PARTS, PLEASE ADVISE IMMEDIATELY THE MANUFACTURER.

## **INTRODUCTION**

THIS KIND OF SCRUBBER MACHINE CAN PERFECTLY WASH EVERY KIND OF FLOOR FROM EVERY KIND OF DIRT WITH AN EXCELLENT RESULT.

THIS IS WHY THE MACHINE MUST ALWAYS BE USED IN A CORRECT WAY AND MAINTAIN IT. PLEASE, READ CAREFULLY THIS USER AND MAINTAINANCE MANUAL.

THE MACHINE MUST ONLY BE USED FOR THE INDUSTRIAL CLEANING.

Please, keep this manual for any future reference



## TECHNICAL DATA

LENGTH	2280 mm
WIDTH	1470 mm
HEIGHT	1500 mm
BRUSHES No.	3
SIDE BRUSH	∅ 600 mm
MAIN BRUSH (1.200mm length)	∅ 380 mm
WORKING WIDTH with right side brush	1500 mm
WORKING WIDTH with right and left side brush	1800 mm
WASTE TANK RECOVERY	450 lt.
FILTERING SURFACE	18 m <sup>2</sup>
HYDRAULIC OIL TANK	65 lt.
WATER COOLING SYSTEM	5 lt.
FRONT AND REAR WHEEL DIMENSIONS	4.00-8 16x6-8
WEIGHT	1470 kg
POWER	BATTERY
SHAKER FILTER ENGINE 65 watt 7,8 A	7500rpm
SUCTION HYDRAULIC ENGINE	OPM 20
TRACTION HYDRAULIC ENGINE	OPM w315
MAIN BRUSH HYDRAULIC ENGINE	OPM 50
SIDE BRUSH HYDRAULIC ENGINE	OPM 100
VARIABLE DELIVERY PUMP	APVC 20
PISTON PUMP	C/28.8 –LBE/BCD
HYDROGEAR	OSPC 100 ON
OPERATOR	Man on board
MINIMUM U-TURN LANE	2200 mm
SERVICE BRAKE	hydraulic
PARKING BRAKE	Mechanical by lever
FORWARD GEAR SPEED	0 ÷12 Km/h
REVERSE GEAR SPEED	0 ÷12 Km/h
MAX OVERWHELMING SLOPE	13 %
MAX OVERCOMING SLOPE FOR A U-TURN	5% A 2 Km/h
CLEANED AREA (m <sup>2</sup> /h)	18000m <sup>2</sup> /h
NOISE AT OPERATOR'S EAR	75 dBa
VIBRATIONS AT OPERATOR'S EAR	< 2.5 m/s <sup>2</sup>



## GENERAL INFORMATION

### MANUFACTURER RESPONSIBILITY

The manufacturer FIORENTINI is not responsible for any damage due to the no-acquaintance or no-fulfilment of the instructions of this manual. The same applies to changes, modifications, and/or the installation of accessories not authorized by FIORENTINI.

In particular, FIORENTINI is not responsible for any damage caused by:

- Natural calamity
- Erroneous manoeuvres
- No maintenance

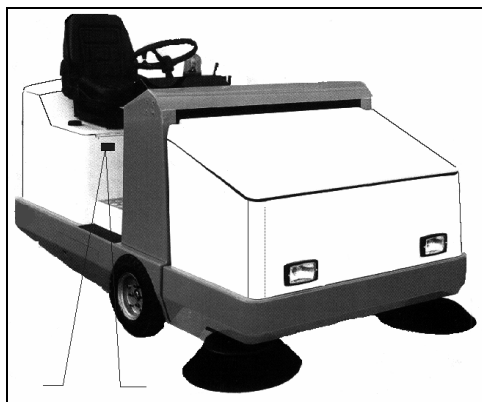
**Furthermore, the manufacturer is not responsible for any intervention not performed by FIORENTINI technicians except for ordinary maintenance.**

### INTERVENTION REQUEST

Intervention should be made after a careful analysis of the damage and its causes. In any case, when a damage occurs, it is necessary to give the following information to the authorized Service Centre:

- Machine model;
- Serial number (picture nr. 1);
- A detailed description of the damage;
- Check done;
- Performed adjustments and their results;
- Any other information considered useful for this purpose;
- Customer address.

Fig. 1



<b>Ing. O. Fiorentini</b>		<b>MADE IN</b>	<b>CE</b>
<b>Piancaldoli (FI)</b>		<b>ITALY</b>	
Mod. S 48B	S.N.		2009
V	Hz.		
<b>Kg 1470</b>	A	W	



## GOODS TO BE RETURNED

In case of goods to be returned for warranty replacement, it is necessary to have a written acceptance from

FIorentINI technical department before sending them.

All defective parts must be carefully packed in order to avoid further damages during transport.

Goods must be shipped ex-warehouse and followed by :

- **serial number of the equipment where they were installed on;**
- **item code of the defective part;**
- **detailed description of the defect and of the conditions where it happened.**

In case of defective electric or electronic goods, please return them separately from other materials, in order to help us in dividing dangerous wastegoods and recycle the (RAEE) as DER 2002/96/CEE LOW.



## TRANSPORT AND STORAGE

### PACKED MACHINE HANDLING

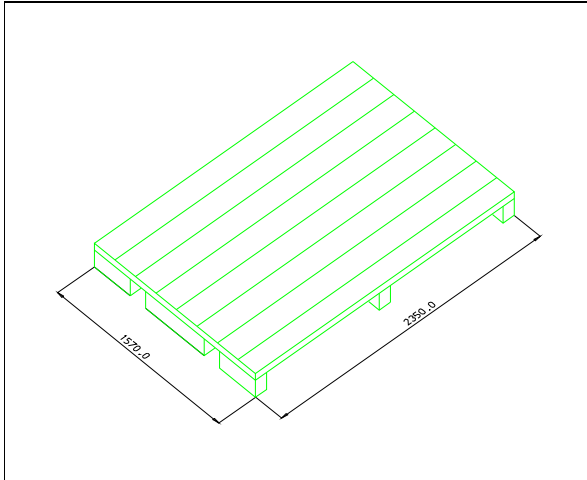
The machine is delivered in a special package, which is shown in picture nr. 2.

The gravity centre is indicated on the package with a black arrow. The pallet must be forked in the middle of the side with the black arrow in order to avoid overturning.

The case should be handled with extreme caution.

It is forbidden to lay cases on each other.

Picture no. 2



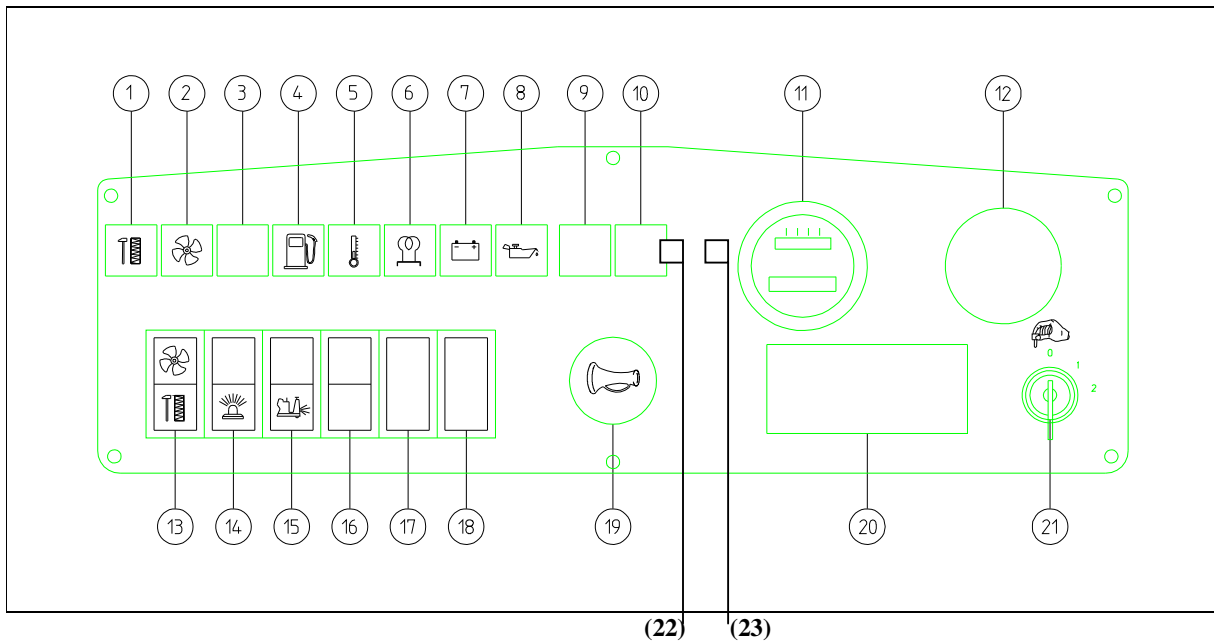
### UNPACKING THE MACHINE

1. Cut the plastic bands. Pay attention to the spring back.
2. Remove the clips that fix the carton to the pallet.
3. If the case is made of plywood, remove the clips from the each side and the base.
4. Remove the plastic bands that hold the machine.
5. Place the machine on the floor.

### UNPACKED MACHINE HANDLING

1. Check the machine and install the batteries if they are not installed.
2. If the machine has to be handled for a short transport, disconnect the battery cables. It is recommended to pack the machine again in its original case if it has to be handled for a longer transport.

# CONTROLS DESCRIPTION DASHBOARD












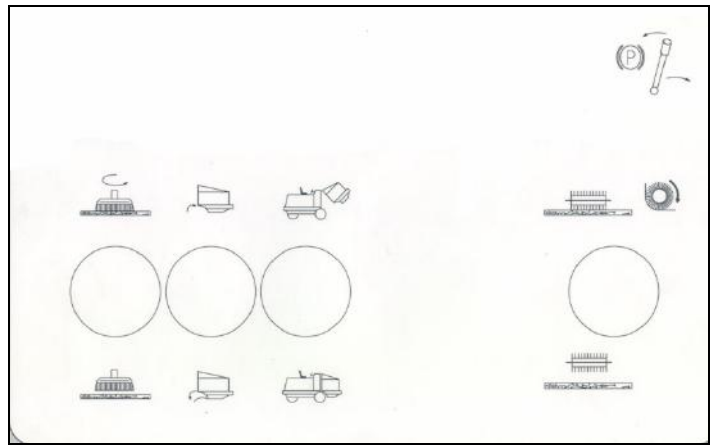
- |  |  |
|--|--|
| 1. Shaker filter pilot light             | 15. interruttore luci di lavoro              |
| 2. Suction fan pilot light               | 16. Windscreen wiper switch                  |
| 3. Engine air filter pilot light         | 17. -  |
| 4. Gasoil pilot light                    | 18. -  |
| 5. Water temperature pilot light         | 19. Steering column with acoustic signalling |
| 6. Pre-starting pilot light              | 20. Recovery tank                            |
| 7. Engine oil pilot light                | 21. Key switch                               |
| 8. Generator pilot light                 | 22. flap closed                              |
| 9. Indicator pilot light                 | 23. flap open                                |
| 10. Lights on pilot light                |  |
| 11. Hour counter                         |  |
| 13. Suction fan and shaker filter switch |  |
| 14. Blinking light switch                |  |

## SYMBOLS ON THE DASHBOARD

	Oil pressure		Suction fan
	Gasoil pilot light		Indicator
	Blinking light		Horn
	Spark plug heating		Shaker filter



	Water temperature		Hopper open
	Flap closed		Hopper closed
	Battery charger		Lights
	Main brush lift up		Suction filters pilot light
	Main brush lift down		

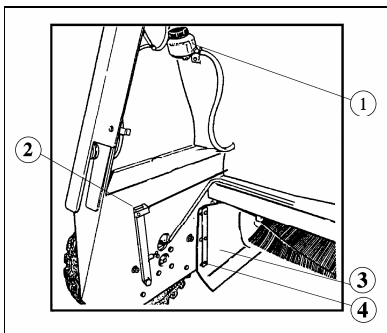


### USE OF THE MACHINE

**Brake**

The machine is equipped with parking and service brake (picture no. 4). The service brake is hydraulic and is started by a pedal placed on the left of the footboard. The oil chamber is placed on the forward pedal. The operator has to pull the lever up and do a 90° rotation in order to insert the service brake.

Picture no. 4



1. Hand brake lever
2. Dust gaskets
3. Screws for dust gaskets

### Use of the machine

The sweeper is started by an hydraulic system based on a variable delivery pump started by a diesel engine and an orbital engine placed on the rear wheel (picture 5).

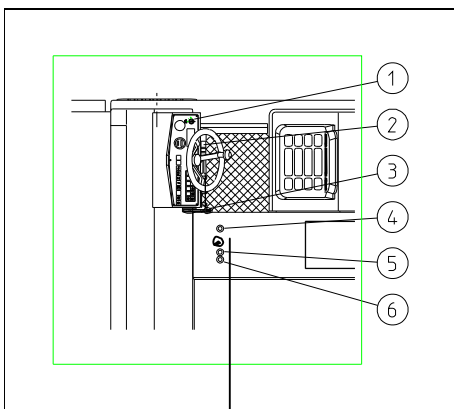
In order to move the vehicle, the operator has to press the forward pedal. The speed of the machine is directly proportional to the traverse of the pedal. The operator has to release the pedal in order to stop the machine.

The operator has regularly to empty the hopper for a better performance. Moreover, the operator has to activate the flap many times during the collecting of small waste. The sweeper can collect both small and heavy waste.

For a better waste recovery, it is necessary that when the machine is stopped, the brush rotates and leaves a print of 5-8 cm. In order to regulate the height of the brush, the operator has to regulate the jack.

Usually, the dust collected is intaken and put into the hopper filter. When the floor is wet, it is necessary to stop the fan by means of the switch in order to avoid the obstruction of the filter.

Picture 5



1. Key switch
2. Parking brake lever
3. Gas lever
4. Central brush position lever
5. Flap lever position
6. Side brush position lever
7. Hopper lift up lever position

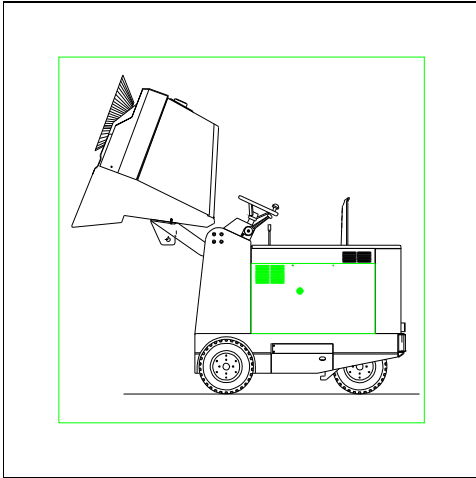
(7)

### To empty the hopper

If necessary, please empty the hopper in the following way (see picture no. 6):

- Lift up and stop the side brush
- Lift and stop the main brush
- Close the flap by means of the lever
- Press the shaker filter switch for several seconds
- Lift the hopper up by means of the lever
- Lay the hopper onto the rubbish skip
- Open the flap for the waste discharge by means of the lever
- Lay down the hopper

Picture no. 6



**Regulate the height of the main brush**

- The operator has to regulate the adjuster placed on the brush jack

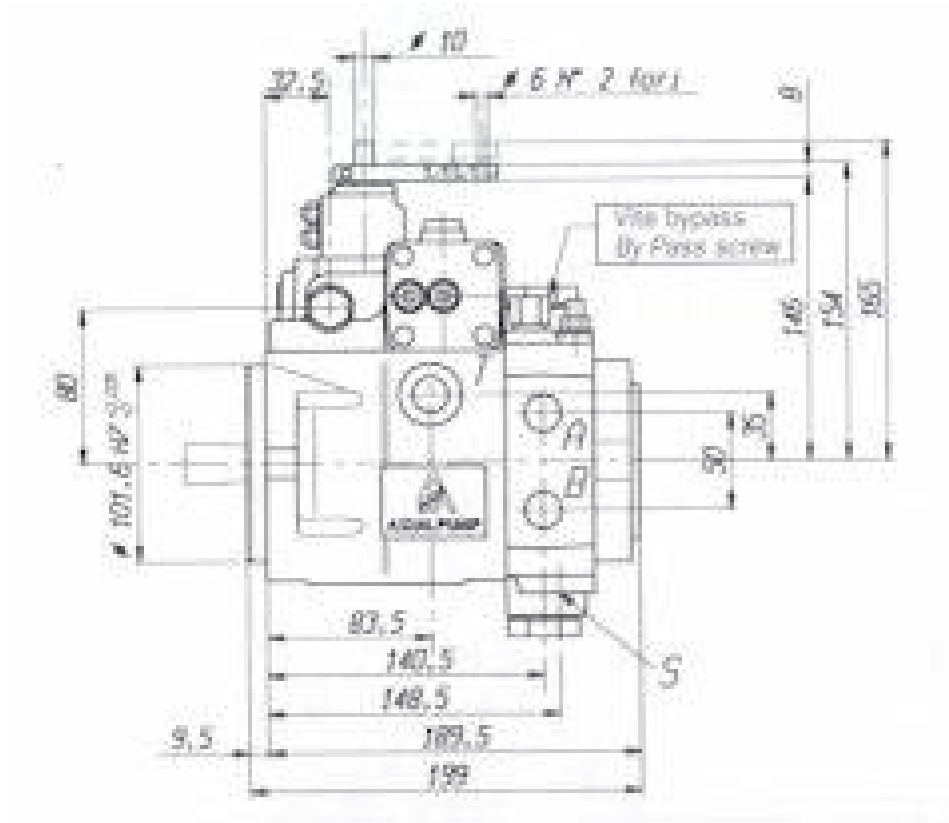
**Regulate the height of the side brushes**

- The operator has to regulate the knob under the brush arm

**How to unblock the machine**

In order to tow the machine the operator has to unblock the hydraulic transmission (picture no. 7) and loose the by-pass cap.

Picture no. 7





## SAFETY, MAINTENANCE AND CHECK

### GENERAL SAFETY RULES

The rules listed below must be carefully followed in order to avoid damages to the operator and/or the machine.

- Read carefully the labels stucked on the machine and do not cover them for any reason;
- Do not mix detergents of different kind in order to avoid the development of dangerous gases;
- Do not use the machine in places with explosive substances;
- Do not use the machine as a means of transport
- Do not use acids which could damage the machine;
- **Do not intake flammable liquids for any reason**
- In case of fire, please use a powder extinguisher. Do not use water.
- If the machine does not work in the correct way, please make sure that the defect is not caused by a lack of ordinary maintenance. On the contrary, please immediately contact FIORENTINI Service;
- Before starting the machine again, please make sure that all fixed or removable protections are in their position;
- Do not wash the machine with corrosive substances or with water jets;
- Do not keep the machine in an environment with a temperature < 3° C;
- Avoid to leave the machine in a no-authorized place for the scrapping. In fact, the machine is made of materials that must be recycled and disposed in authorized centres;
- The machine does not develop dangerous vibrations;
- Keep always the machine far from kerbstones and drive slowly on surfaces with holes;
- Make sure that there are no people near the machine during the cleaning;
- Do not start the machine if it is under maintenance;
- Do not drive too fast while turning, in particular on sloping surfaces;
- **It is absolutely forbidden to touch the inferior side of the machine during the cleaning. If it is necessary, please keep the ignition key away from the dashboard;**
- The operator must carefully read this manual and do not use alcohol or medicines before driving the machine;
- **The machine cannot be used in places with dangerous substances and in particular with explosive atmospheres or with a bad microclimate;**
- Please, disconnect the battery when the machine is not working.

**Important: the operator has to have a sufficient knowledge of the Italian language.**



### **Daily maintenance rules**

While the operator is cleaning, maintaining the machine or replacing some of its parts, the ignition key must not be in dashboard.

### **Maintenance plan**

#### DAILY

- Clean the waste hopper

#### WEEKLY

- Check the water level of the starter battery
- Check the dust protection gasket
- Check the wear and tear of the main brush
- Check the hydraulic oil

#### EVERY 6 MONTHS

- Grease the bearings of the rear wheel

#### EVERY 2 YEARS

- Check the safety devices
- Check the electric system

### **Suction system**

The suction system is based on a fan activated by an engine. It has the function to intake the dust produced by the rotation of the brushes.

The suction power of the fan goes through the filters, which have the function to keep the dust.

Waste and dust are intaken into the recovery hopper.

In order to replace the filters, the operator has to remove the frames that hold the suction filters. Moreover, the operator has to check that all the rubber gaskets are not damaged and well fixed in order to avoid dust waste into the environment.

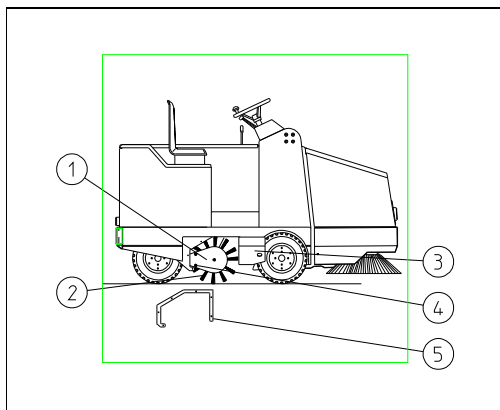
### **Main brush replacement**

The main brush has to be replaced when the bristles are 2-3 cm. Long.

Please follow the instructions listed below in order to replace the main brush:

1. Open the door which is on the bottom on the right side of the machine
2. Unscrew the screws which fix the dust protection rubber (picture no. 8)
3. Unscrew the both hexagonal screws which are on the right of the support in order to remove the main brush
4. Remove the brush from the left support
5. Please carefully check the direction of the main brush before setting it up
6. Set up again the right support of the main brush and the dust protection rubber

Picture no 8



- |  |
|--|
| <ul style="list-style-type: none"> <li>1. Main brush</li> <li>4. Hexagonal screws</li> </ul> |
|--|

**Side brush replacement**

The side brushes collect waste from the corners and carry it to the main brush.

The rotation of the main brush is started by an hydraulic engine, while its regulation is activated by a lever placed on the left side of the dashboard.

The main brush has to be in contact to the floor with the front side and not the rear side. In order to replace the main brush, the operator has to unscrew no. 4 screws which are on the brush hub. Afterwards, the operator has to remove the old main brush and set the new one up. Finally, the operator has to tighten the 4 screws.

**Filter replacement**

Please follow the instructions below in order to replace the filter:

1. Open the bonnet
2. Remove the filter shaker sheets
3. Replace the filters and their gaskets

Do now the opposite instructions.

**Engine for filter shaker**

The engine for filter shaker makes the filters vibrate. In this way, the dust falls into the hopper. If the engine breaks down, the operator has to replace the carbon brushes.

**PROBLEMS AND DEFECTS**

DEFECT	PROBABLE CAUSE	SOLUTION
The vehicle runs slowly	<ul style="list-style-type: none"> <li>A: the level of the hydraulic oil is not sufficient</li> <li>B: by-pass valve is open</li> <li>C: the pressure of the traslation circuiti is not sufficient</li> <li>D: the filter of the traslation circuiti is obstructed</li> </ul>	<ul style="list-style-type: none"> <li>A: fill the hydraulic oil chamber</li> <li>B: close the valve</li> <li>C: check and regulate the pressure</li> </ul>



	E: the pump or the hydraulic engine are defective	
Brushes rotate slowly	A: the engine rpm is low B: the pump or the hydraulic engines are defective C: the pressure is not sufficient	A: increase the engine rpm B: replace the pump or the hydraulic engines C: check and lightly increase the pressure
Brushes rotate intermittent	A: the level of the hydraulic oil is not sufficient B: suction filters are obstructed	A: fill the hydraulic oil chamber B: replace the filters
The vehicle does not move	The by-pass valve is open	Close the valve
There is foam in the hydraulic oil chamber	A: the level of the hydraulic oil is not sufficient B: there is air in the suction hoses	A: fill the hydraulic oil chamber B: replace the hoses or make sure that the fittings are well fixed
Dust flows through the sides of the machine	A: the dust protection rubbers are damaged B: the filter is obstructed because the filter shaker is broken C: the flap is blocked and does not open	A: replace the dust protection rubbers B: replace the filter shaker C: open the flap and check the right functioning
Dust flows through the fan and the bonnet	A: the filter is damaged B: the filter is not well set up	A: replace the filter B: set up the filter correctly
Not sufficient cleaning	A: the forward speed is too high B: the main brush is too far from the floor C: the main brush is too worn	A: decrease the forward speed B: regulate the main brush position C: replace the main brush

## CHECK

The machine has to be inspected by a technician who has to check the safety conditions and if the machine is damaged or has visible defects:

- During the first start of the machine
- After modifications and repair

### Check on safety devices

Check the efficiency of the safety devices every two years. The inspection has to be done by a trained technician.

Every five years the machine has to be revised by a Fiorentini technician.

### Check on the electric system

Every two years the electric system has to be checked. Burnt cables and not well fixed connections have to be checked and replaced. Interventions have to be done by a trained technician.

### Check on the braking system



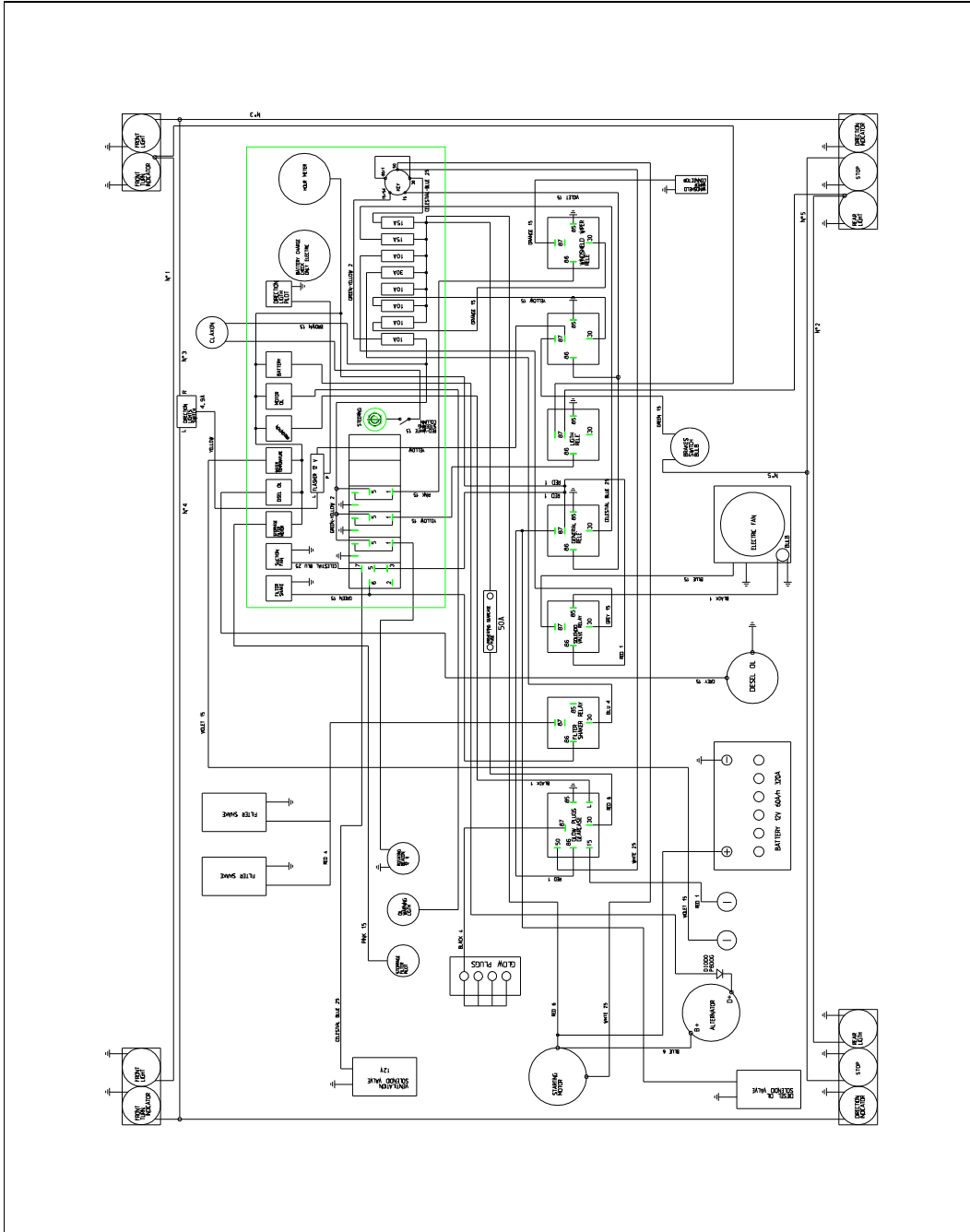


The braking system has to be checked every 3 months





# ELECTRIC SYSTEM



**DICHIARAZIONE CE DI CONFORMITA'-DECLARATION OF CONFORMITY  
DECLARATION DE CONFORMITE-EG-KONFORMITÄTSEKTLÄRUNG-  
DECLARACION DE CONFORMIDAD**

(ai sensi dell'allegato II 1.A della Direttiva **Macchine 2006/42/CE**)

**La ING.O.FIORENTINI SPA**

con sede in Via Piancaldoli 1896 Firenzuola, 50033, (FI)

**DICHIARA/DECLARES/DECLARE/ERKLÄRT/ DECLARA**

n qualità di costruttore sotto la propria responsabilità che la macchina  
As manufacturer under its own responsibility that the machine  
En tant que fabricant sous sa propre responsabilité que la machine  
Als Hersteller, erklären, in alleiniger Verantwortung, dass das Produkt  
Como fabricante, bajo su responsabilidad que la máquina



**Modello/model/modèle/Typ/modelo**

**Matricola/serial number/numero de série/**

**Fabriknummer/ Número matricula**

**Anno di costruzione /**

**Year of production/ Année de production/**

**Baujahr/ Año de producción**

a cui la presente dichiarazione si riferisce è conforme alle prescrizioni  
which this declaration refers to, is in conformity with the requirements  
à laquelle se réfère cette déclaration, est en conformité avec les prescriptions  
Auf das sich diese Erklärung bezieht, mit der normativen übereinstimmt.  
que esta declaración se refiere, está en conformidad con los requisitos

della direttiva macchine **2006/42/CE/ Directive 2006/42/CE / de la Directive 2006/42/CE / der EG-Richtlinie 2006/42/EG über  
Maschinen / De la directiva maquinas 2006/42/CE**

della direttiva compatibilità elettromagnetica **2014/30/EU/ the Electromagnetic Compatibility Directive 2014/30 / EU / de la Directive  
Compatibilité Electromagnétique 2014/30 /EU / elektromagnetische Verträglichkeit (EMV) 2014/30/EU / la directiva de  
compatibilidad electromagnetica 2014/30/EU**

della direttiva sui rifiuti di apparecchiature elettriche ed elettroniche (**RAEE**) **2012/19/UE/ Directive on Waste of Electrical and  
Electronic Equipment (WEEE) 2012/19 / EU/ de la directive relative aux déchets d'équipements électriques et électroniques (DEEE)  
2012/19 / UE / Elektrische und elektronische Geräte Abfälle (DEEE)2012/19/UE Directiva sobre residuos de aparatos eléctricos y  
electrónicos (RAEE) 2012/19/UE/  
(ISCRIZIONE AL REGISTRO PRODUTTORI A.E.E.: N° IT1201000007391)**

In particolare alle disposizioni normative

In particular, the regulatory rules

En particulier, les dispositions réglementaires

Gemäß den Bestimmungen der Richtlinie

En particular, las normas reguladoras

**EN ISO 12100, EN ISO 13857, EN ISO 13850, EN 60204-1, EN 349,  
EN 953, EN ISO 4413, EN 60335, EN 60335-1, EN 60335-2-69, EN 60335-2-72, EN 55014-1, EN 55014-2,  
EN 62233, EN 61000-6-2, EN 61000-6-4**

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Il Legale Rappresentante/president/gérant/ representante

**Angelica Maria Cerutti**

**Piancaldoli**

*Luogo e data*

*Firma*

*Cerutti Angelica Maria*

Mat. n.

Serial no. \_\_\_\_\_

Nr. de serie

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