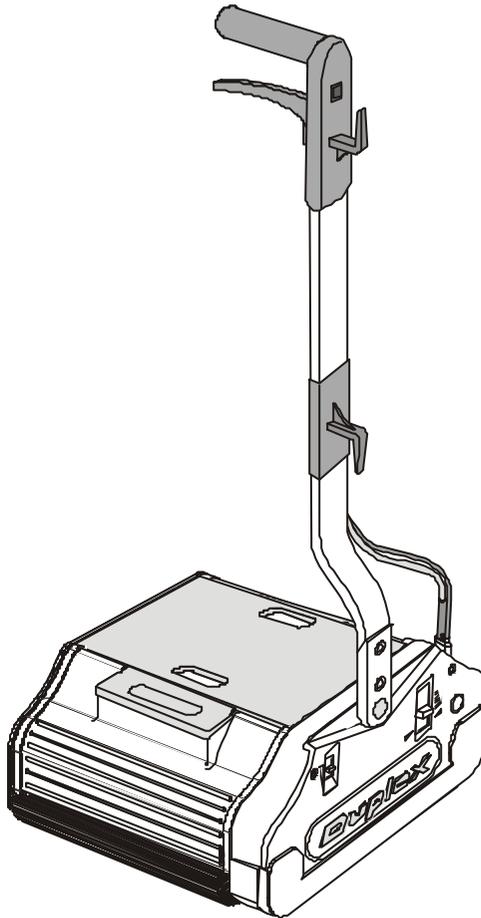


# DP340 & DP420 FOR CLEANING FLOORS AND CARPETS



## INSTRUCTIONS FOR USE AND MAINTENANCE



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## **WARNINGS**

*BEFORE USING THE MACHINE IT IS RECOMMENDED CAREFULLY  
READING ALL THE INSTRUCTIONS IN THIS MANUAL*

## **INTRODUCTION**

DUPLEX is a machine for washing floors equipped with an original automatic system for recovering the dirty water. Its special manufacturing characteristics endow it with advantages and performances which make it stand out from all other types of floor washer.

DUPLEX possesses two robust cylindrical brushes which thanks to their decentred position, are capable of thoroughly washing any surface right up to the edge of the skirting boards of every wall or piece of furniture, collecting every drop of dirty liquid

This is the only machine with double action that allows for reversing the movement, simply by inverting the position of the handle, without having to shift it from its original position, and working with full force both backwards and forwards.

It is also equipped with two counterbalanced tanks which contain and supply the water. Their position guarantees a perfect balance as well as a double and uniform distribution of the liquid onto the floor.

The tank for recovering the dirt is located in the centre of the machine and is perfectly balanced which makes the machine user-friendly, practical, and very light to use without tiring the operator.

DUPLEX designs and builds from the best Italian technical tradition exploiting know-how of an extremely high technological level.

The safety guards which bear the weight of the entire structure are in die-cast aluminium, the accessory fairways are in shockproof material and the brush-holder panel is in stainless steel. All are top-of-the-range components.

DUPLEX, covered by international patents, is always ready for use, and extremely user-friendly due to moving about on four sliding castors which drop down automatically.

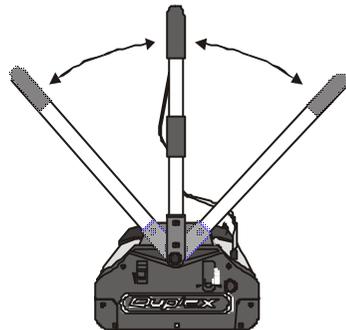
We invite you to follow the use and maintenance instructions with care.

This device is suitable for commercial use, for example in hotels, hospitals, factories, shops, offices and hire services, as well as for normal use in the home.

**Warning: this device is destined for use exclusively with the brushes specified by the manufacturer.**

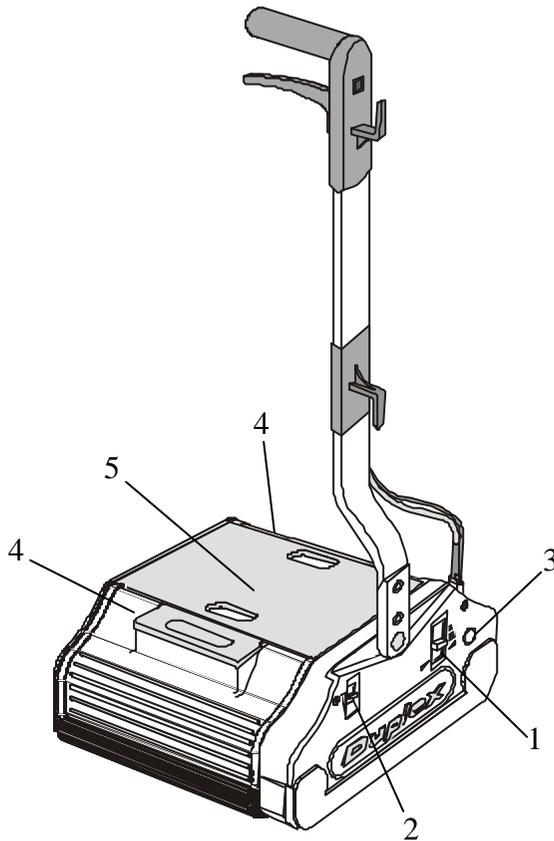
The use of any other brushes could compromise the safety of the device.

*THE ORIGINALITY OF THE HANDLE THAT INVERTS ITS OPERATING POSITION, ALLOWS FOR CLEANING AND WASHING FLOORS AND CARPETS IN A THOROUGH MANNER, BOTH FORWARDS AND BACKWARDS AND FROM RIGHT TO LEFT.*



**It washes and dries floors in the following materials:**

Ceramics - rubber - tapisum - cotto - carpet - klinker - cement - wood - plastic - PVC – epoxy resin - brick - porphyry - marble - granite – relief ceramics - bullonato - pietra serena - linoleum - porcelain - glass – artistic mosaics - rugs - quartz - graniglia - grès.



- 1 Rest Translation
- 2 Mop Up
- 3 Motor Protector
- 4 Tank for water with detergent
- 5 Recovery tank

## ASSEMBLING THE MACHINE

The machine is shipped in a cardboard box.



After receiving the package the user must carry out the assembly of all the parts that for space reasons have been disassembled before being shipped.



The package contains the following:

- 1 Floor washing / carpet washing machine
  - 2 Elbow for handle
  - 3 Handle
  - 4 Connecting casing
- Use and maintenance manual  
Certificate of Compliance

## ASSEMBLING THE HANDLE

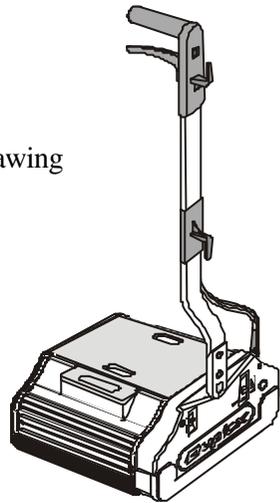
Insert the elbow of the handle into the housing of the jointed elbow. Tighten the two screws with the screwdriver supplied and tighten well. (fig. 1)



Assemble the handgrip if the handle by pushing it through the connecting casing and make sure to point the screws inwards with the cable-holder facing towards the bottom.

Screw up the three screws with the same screwdriver supplied. (fig. 2).

The assembled handle must be as illustrated in the drawing to the right.



Adjust the screw of the register located underneath the lever of the handgrip, at the same time observing the positioning of the feelers that allow the liquid to exit from the tanks. (fig. 3)

Make sure that the same feelers remain flush with the side panel when the lever is not pulled down. (fig. 4)

If the feelers protrude it may be impossible to insert or extract the tanks containing the liquid from their housings.



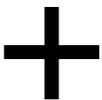
### LOADING THE WASHING LIQUID

Two tanks contain the solution for washing, both of these must always be at the same level.



The tanks can be filled either by pouring water in from a jug, (fig. 5) or by placing the tanks themselves under a tap as they are easy to remove.

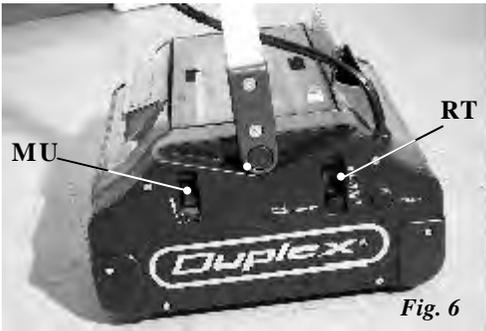
For ensuring the best use of your DUPLEX ask for the special detergents for every type of floor from the manufacturer or authorised dealers (*For the doses please follow the instructions on the outside of the bottles*).



**The manufacturer declines all responsibility for damage caused by incorrect use of the machine or detergents not suitable for the type of floor.**

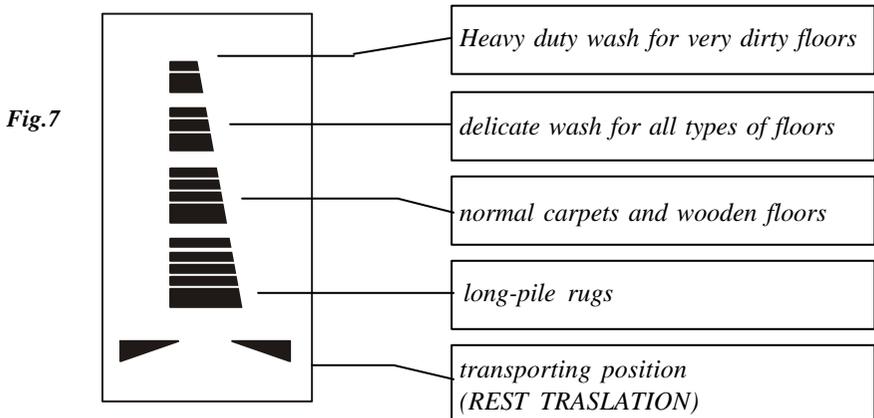
## STARTING UP

Before inserting the plug of the connecting cable into a power point equipped with earthing, make sure that the handle is in the Rest position (perfectly vertical) and that the **RT** register is in the Rest Translation position. (fig. 6)



This register can be shifted to any one of the four preselected positions, which will establish the different positions the brushes will adopt on the floor. (fig. 7)

*During machine operation it is recommended keeping the cable well clear of the brushes in order to prevent it from being damaged.*



*“For washing carpets use the yellow brushes exclusively.”*

Take hold of the handle and lower it slowly to one of the two sides, the machine will start up and the revolving brushes will start revolving on the floor. (fig. 8)

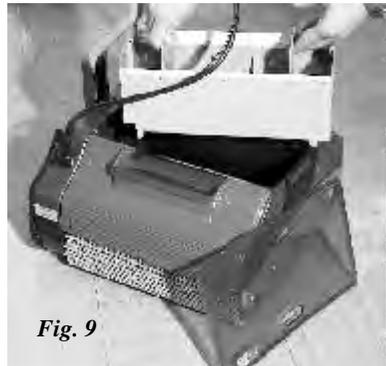
Move the machine slowly forwards, going over the same washing path with the recovery device **MU (MOP UP)** inserted (lever pulled downwards). (fig. 6)

Let the liquid move downwards by activating the lever underneath the handle at brief intervals and only when the machine is moving forwards, taking care not to flood the floor.



*Fig. 8*

The dirty water will instantly be collected inside the easy-to-remove recovery tank which must be emptied as soon as it fills up. (fig. 9)



*Fig. 9*



**The disposal of the dirty water must be carried out in compliance with the regulations in force.**

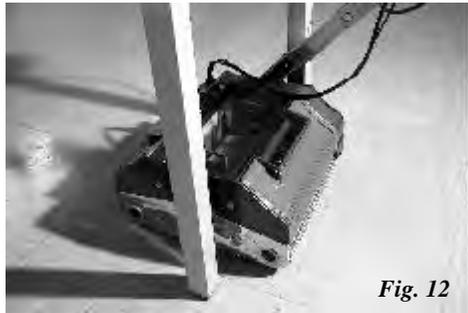
Figures 10, 11 and 12 illustrate how DUPLEX works as far as the edges of the skirting boards of the walls or the furniture and how it enters into restricted spaces.



*Fig. 10*



*Fig. 11*

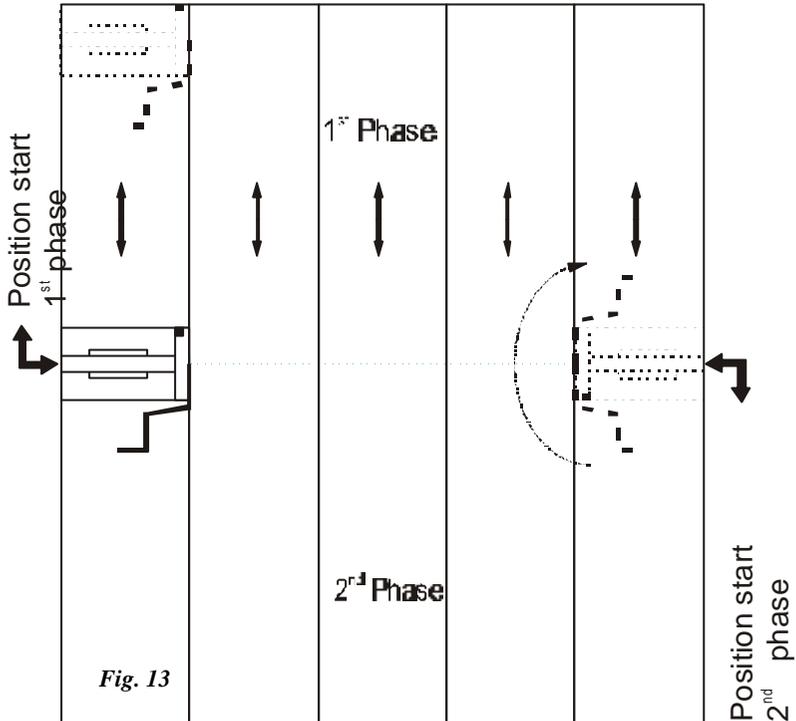


*Fig. 12*

DUPLEX works in two directions (backwards and forwards) without having to shift it from its original position as it is sufficient to move the handle from right to left or from left to right in order to reach the opposite sides of every room.

## INSTRUCTION FOR WASHING FLOORS

1. For the first phase move forwards from the Start position towards the corner as indicated in fig. 13.



2. Make the machine move backwards and continue to clean the same “lane”, thus returning to the starting off point.
3. From the starting-off point shift onto the second washing path, slightly overlapping the path that has been cleaned previously. Repeat the operation until finishing the washing operation of the entire area of phase 1.
4. In order to clean the edge on the side of the room facing the cleaning area, reverse the machine. (fig. 13)

Phase 2, Repeat the entire operation, as per phase 1.

## BRUSHES

### “Use original DUPLEX brushes exclusively ”

The original DUPLEX brushes are tested and balanced individually with special electronic instruments and guarantee the absence of vibrations that could generate damaging mechanical stress for the machine and the floors.

The use characteristics of the brushes can be recognised via the colour: Light grey; Black; Black/hard; Yellow; Brown; Scotch-brite (*compact*); Dark grey (*Tynex*).

#### **Light grey brushes:**

Universal use for light dirt on all types of floors (*standard supply*).

#### **Soft black brushes:**

Universal use for heavy dirt and less delicate floors.

#### **Hard black brushes:**

For scraping off resistant dirt (*for this use it is sufficient to assemble one “hard” brush only together with the other “soft” black brush.*

#### **Yellow brushes:**

For cleaning carpets, rugs, parquet and particularly delicate floors.

### **How to clean carpets**

Set the register to the working position, choosing the correct operating position (normal carpets / long-pile carpets). It is recommended crossing over the washing tracks in order to thoroughly wash all the fibres while taking care not to wet the carpet too much. (*Make several trial runs before proceeding with the full washing operation*).

### **How to clean Parquet**

Do not wet the floor too much, especially the non-varnished types which absorb a greater quantity of humidity. It is recommended always taking great care when cleaning these floors, making several trial runs before proceeding with the full washing operation.

### **Brown horsehair brushes:**

The polishing of smooth surfaces is carried out after having evenly distributed a thin layer of liquid wax over the floor. Wait for the wax to dry completely before polishing.

Set the register to the MU (Mop-Up) position towards the top. The RT register must be set to the “Heavy Wash” or “Delicate Wash” positions, then move the machine forwards and backwards in order to polish the floor.

***Do not use the machine for spreading the wax.***

*(The horsehair brushes must not be used with water or detergents).*

### **Compact “scotch-brite” brushes :**

Only for fine polishing and endowing waxed and very smooth floors with a mirror finish.

### **Tinex brushes:**

Extremely abrasive for removing paint, plaster, incrustations of cement and other products, even when dried hard on resistant industrial floors: gres, porphyry, klinker, cotto, etc. *(These brushes can normally be used with water and detergents; due to their abrasive power they may damage the floor).*

## **SPECIAL PROCEDURES**

### **Waxing the floor with the “Lavaincera” system**

Some floors are extremely suitable for being washed and treated with the “**Lavaincera**” thanks to their specific characteristics, like those in cotto, smooth tiles, klinker, marble, granite, industrial floors, roun raised rubber floors, rubber, old pre-treated wax floors and many others.

Excellent results and a good “**polished look**” can be obtained with this solution, as well as a thorough washing of the entire floor and an instantaneous recovery of the dirt in a simple, fast and economical manner.

For this procedure it is possible to use the machine with the two normal grey brushes that come with the machine.

The two tanks must be filled with the special product mixed with water in the proportions and according to the instructions on the outside of the bottles, after which the same system is followed as for the normal washing operation. (*The special product can be ordered for home delivery*). It is possible to obtain a greater brilliance by passing the Duplex over the floor fitted with the **horsehair** or **Scotch-brite** brushes.

**Very dirty floors:**

Whenever it is necessary to give a heavy wash to floors which have collected dirt over a long period of time with all sorts of stains and the build-up of solvents from normal detergents it is recommended proceeding in the following manner:

After moving the MOP-UP lever to the top position, use the lever of the handle to allow abundant liquid product/water solution - preferably heated to a temperature of 35/40°C – to flow onto the floor.

Under these conditions the recovery device will be disabled and the liquid poured onto the floor will serve for turning the solution into an emulsion, thus allowing the detergent to exert a greater efficacy.

Move the machine forwards over the entire wet surface of the floor either moving in all directions or following a precise pattern.

Once this washing operation is over, the MOP-UP lever must be moved down to the bottom in order to reactivate the automatic system for recovering the dirty water.

**(The MOP-UP lever must only ever be activated  
when the machine is stopped)**

This procedure can be carried out with every type of brush supplied except the brown horsehair brushes.

*After washing particularly dirty floors and before carrying out any other type of process on delicate floors, clean the brushes and the machine well (see pages 17 and 19).*

## **STOPPING THE OPERATIONS**

Every time the handle is moved into the vertical REST position the machine will immediately come to a halt. Each time the machine stops, it will be necessary to move the register (fig. 6) to the “rest translation” position.

## **TRANSLATION**

In order to be transported from one room to another, or put it away, the DUPLEX moves on four sliding castors that raise it up automatically. In order to ensure that the castors remain firmly fixed in this position, move the handle of the machine into the “vertical” rest position, and the register (fig. 6) to the “rest translation” position; then lower the handle to either of the two sides, and then push the machine which will roll along on its castors.

## **TROLLEY FOR SUPPLEMENTARY TRANSLATION**

*(Option for going up or down steps and for transporting the machine from one room to another with different level floors)*



## AUTOMATIC “MOTOR PROTECTOR”

In the event of certain conditions existing which could overload the electric motor (foreign bodies in the brushes that could block their rotation, power supply fluctuations, overheating etc.), the “Motor Protector” will intervene and stop the machine.

**Important:** Disconnect the machine from the power point before removing any foreign bodies caught up in the brushes.

After waiting for approximately 60 seconds, restore the machine operation by pressing the same “Motor Protector” button.



*Fig. 14*

## CLEANING AND MAINTENANCE OF THE BRUSHES

Remove the plug from the power point before proceeding with the cleaning or maintenance operations or replacement of the brushes.

The DUPLEX brushes do not require anything more than periodic maintenance seeing that their high speed rotation is capable of centrifuging the dirt and always keep them efficient.

Every now and then it will be necessary to remove the brushes and soak them for several hours in a basin filled with cold or warm (never hot) water, in which the same detergent used for cleaning the floors must be added.

After having washed and rinsed the brushes well, their bristles will regain in vigour and elasticity.

At the moment of reassembling the brushes it is important to remember to invert them. This precaution is necessary due to the fact that if they always rotate in the same direction the bristles may tend to bend.

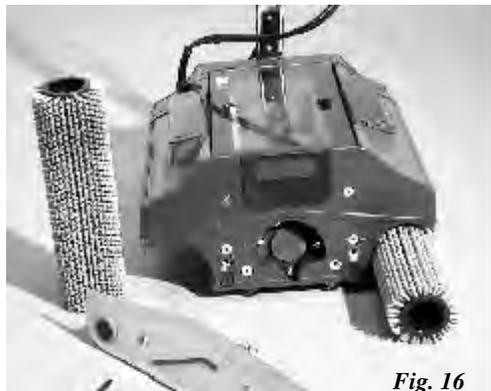
## HOW TO REMOVE THE BRUSHES

Use the screwdriver supplied to remove the two screws located on the stainless side panel. (fig. 15)



*Fig. 15*

Extract the two brushes together with the side panel. fig. 16)



*Fig. 16*

Separate the two brushes from the side panel itself.

**In the case of the brushes being deformed (due to wear and tear of the same), they may generate jumps and vibrations.**

**In this case contact the assistance centre.**

## CLEANING THE MACHINE

Remove the three tanks (fig. 17). Use a damp sponge to carefully clean the rubber conveyor belts and every part of the machine itself.

Use a brush to remove every residue of dirt from all the corners.

Dry well.

**Do not use high pressure water jet machines to wash the machine.**

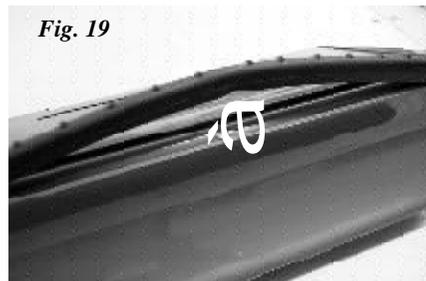
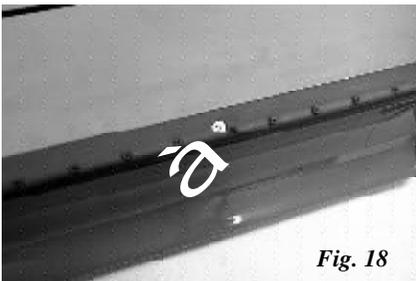


## CLEANING THE TANKS

The three tanks (the dirty water recovery one and the two containing the clean water and the detergent) can be washed in running water under the tap.

Make sure that no foreign bodies remain inside the rubber valves located in the two tanks which make the washing liquid exit. Any dirt could prevent them from closing meaning that the liquid will continue to exit.

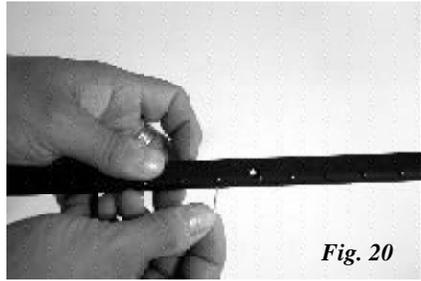
After having extracted the screws (fig. 18) remove the nozzles from the tanks. Hold then in the middle and pull upwards (fig. 19), extracting them from their side housings.



Clean the holes of the nozzles with a needle (fig. 20).

Always keep the two scrapers of the recovery tank clean.

**This procedure should be carried out after every machine operation.**



## GENERAL MAINTENANCE

The mechanical parts of the DUPLEX do not require periodic maintenance as their gearings all run on bearings.

## IMPORTANT PRECAUTIONS

At times it may happen that the electric cord gets tangled up underneath the brushes of the machine. Do not under any circumstances attempt to extract the cord while the machine is in operation. First take the handle up to the vertical position.

Disconnect the plug from the power point and before reinserting it check the cord to make sure that it has not been damaged.

In the event of the cord being damaged after being caught up underneath the machine, do not simply repair it with tape but have it checked and repaired by a qualified technician.

Whenever in the rest position the DUPLEX must never rest on the brushes as the weight of the machine itself could deform them. It must always be raised up from the brushes and supported by the four castors that come down automatically when the register is in the "RT" position (see Translation page 16)

**Do not pour water or other liquids on top of the machine.**

For all maintenance operations unplug the power supply cord from the power point.

As with all electrical products, the machine must be stored in a dry environment after use.

The machine is designed exclusively for washing floors and must not be used for other purposes.

When the machine is no longer capable of functioning correctly after many years of service, follow the instructions on page 23 for rendering it unserviceable.

*During the cleaning and maintenance operations, it is compulsory for the machine to be disconnected from the electric power supply.*



## ADVICE FOR ELIMINATING SIMPLE PROBLEMS

### **The machine leaves a wet strip along the sides**

- Too much liquid has been pumped out.
- An irregular pattern has been carried out without observing the instructions on page 12
- The scrapers of the recovery tank are dirty.

### **It fails to collect the dirt.**

- The MOP-UP device is not activated.
- The brushes are worn down.
- The scrapers of the recovery tank are dirty or worn.
- The washing liquid does not exit.
- The recovery tank has not been fitted correctly into its housing.

### **It fails to start**

- Defective power point.
- Power supply cord cut-off.
- The MOTOR PROTECTOR device has intervened. Wait for approximately 60 seconds and press the “MP” button (fig. 14).
- The register (fig. 7) has been left in the “rest translation” position.
- The handle has been lowered too quickly.
- The voltage is too low.

**It vibrates**

- The brushes are deformed or dirty, follow the instructions on page 18.

**The liquid runs out continuously**

- The nozzles have not re-entered (fig. 4), in this case they restrict the tanks which cannot be extracted and as a result the valves remain open.
- Pull the lever on the handle several times in order to facilitate the unblocking of the nozzles, otherwise introduce a screwdriver or a piece of wood into the opening of the tank and press on the rubber valve so that it pushes the nozzles backwards.

**The liquid continues to run out even when the nozzles have re-entered**

- The valves is blocked in one of the tanks. Press the valves to unblock them.
- A foreign body has found its way into the valve seat. Rinse each tank vigorously while keeping the external button that opens the valve pressed in.

## **GUARANTEE**

The machine is guaranteed by the manufacturer for a period of 12 months from the shipping (as indicated on the shipping document).

The guarantee shall be invalid in the following cases:

- the machine is used for purposes differing from those for which it was built
- failure to observe the instructions for use described in the manual
- failure to observe the maintenance and cleaning instructions.

## HOW TO DISMANTLE THE MACHINE

At the time of demolishing the machine it is sufficient to observe the following instructions :

- disconnect the electrical connections and entrust the dismantling operations to qualified and authorised personnel.

### DIFFERENTIATED SUBDIVISION OF THE MATERIALS

#### **Electric components :**

Material that can be disposed of with the urban waste collection, in compliance with the legal provisions in the country of use.

#### **Mechanical components :**

The machine is built with aluminium, steel and plastic materials.

Steel and aluminium will not damage the environment if recycled by qualified and authorised companies.

The plastic materials may cause environmental damage therefore they should be handed over to specialised companies authorised for disposal.

The disposal of the packaging must be carried out in accordance with the regulations in force.