

## MANUAL FOR USE AND MAINTENANCE

1	GENERAL INFORMATION .....	13
1.1	PURPOSE OF THIS MANUAL.....	13
1.2	SAFETY RULES .....	14
1.3	DISPOSAL .....	14
2	TECHNICAL SPECIFICATIONS.....	15
2.1	TECHNICAL FEATURES.....	15
2.2	ACCESSORIES EQUIPMENT: .....	15
3	DESCRIPTION .....	16
4	CONNECTION TO AN HVAC SYSTEM.....	17
5	FLUSHING PROCEDURE.....	18
6	BEFORE RECHARGING THE A/C SYSTEM.....	19
7	RECOVERY OF CONTAMINATED FLUSHING LIQUID.....	20
8	INSTRUCTIONS FOR CLEANING THE FILTERS .....	20
9	GUARANTEE.....	20



## **1 GENERAL INFORMATION**

### **1.1 PURPOSE OF THIS MANUAL**

This manual is related to the use and maintenance of the “KIT LAVAGGIO BUS EVOLUTION ” and intends to provide a complete user guide of the machine and its periodic maintenance.

It is absolutely necessary to read this manual carefully before using this device KIT LAVAGGIO BUS EVOLUTION.

The machine is equipped with protection devices designed to prevent any harm or injury to the operator.

The manufacturer SPIN srl declines any responsibility in case of improper use of the machine, or in case of defusing, by the user, of the protection devices mentioned above.

The instruction manual is an integrating part of the machine and has to remain with it at every time, even in case of sale.

The “KIT LAVAGGIO BUS EVOLUTION ” permit to inject and to circulate a flushing liquid inside the A/C system.

The flushing liquid removes all the impurities and all the polluting substances present into the circuit, which than will be kept by the special net filters.

The filtered liquid, will return to special plastic tank and it will be pushed once again into the components and the tubes to washing.



### **WARNING**

This symbol is used when the not respecting or the wrong interpretation of instructions for the use, could bring dangers or even damages to people.

## 1.2 SAFETY RULES



- Before carrying out any operation, please read the instructions carefully.
- Use protective gloves ( not provided);
- Before the use, check the machine. If damaged, do not use it and have any damage repaired by qualified personnel
- It's prohibited opening KIT LAVAGGIO BUS EVOLUTION by unauthorized personnel.
- Always use a power cord with grounded outlet
- Before entering into the machine unplug the power cord from the power outlet
- Do not tilt KIT LAVAGGIO BUS EVOLUTION when it is full or when it is connected to a power outlet
- Carefully insert the solvent. If the solvent comes out of the machine, wipe it dry immediately.
- Check the tightness of connections and the system before starting treatment;
- During treatment, do not leave unattended the KIT LAVAGGIO BUS EVOLUTION ;
- **The station operates at 220V;**
- **The station operates with nitrogen N2 ( max 5 bar);**
- Do not spill any oil , but disposed of as special waste according to the rules in force;
- Risk of fire, do not come near open flames and do not smoke while using the station;

## 1.3 DISPOSAL

Recycling and waste collection are the responsibility of the user. Store the product in a place that makes the recycling of electrical and electronic equipment. If you do not know the place to do this, contact the municipal office in charge or the refuse collection service



## 2 TECHNICAL SPECIFICATIONS

### 2.1 TECHNICAL FEATURES

Power supply	220/240 V - 50/60 Hz.
Internal Tank	30 lt
Pump Flow Rate	51 lt/min – 8 bar max
Mechanical sealing pump	with EPDM gaskets
Mechanical filter	At the inlet
Connection for the external nitrogen bottle	Max 5bar
External taps	To invert the flush cycle without disconnecting the hoses
Flexible hoses	3 m
Dimensions	445x300x740 mm
Weight	25Kg

### 2.2 ACCESSORIES EQUIPMENT:

KIT LAVAGGIO BUS EVOLUTION comes with a kit of adapters to connect directly to the A/C system hoses



## 3 DESCRIPTION



- A) "Nitrogen/ Flushing" selector;
- B) Directional tap for flushing cycle 1;
- C) Directional tap for flushing cycle 2;
- 1) Polsnap module with fuses;
- 2) Inlet hose to the A/C system with filter;
- 3) Outlet hose from the A/C system with filter;
- 4) Nitrogen Inlet;
- 5) Tank for the flushing liquid;
- 6) Tank's cap for flushing liquid;
- 7) ON/OFF pump switch;

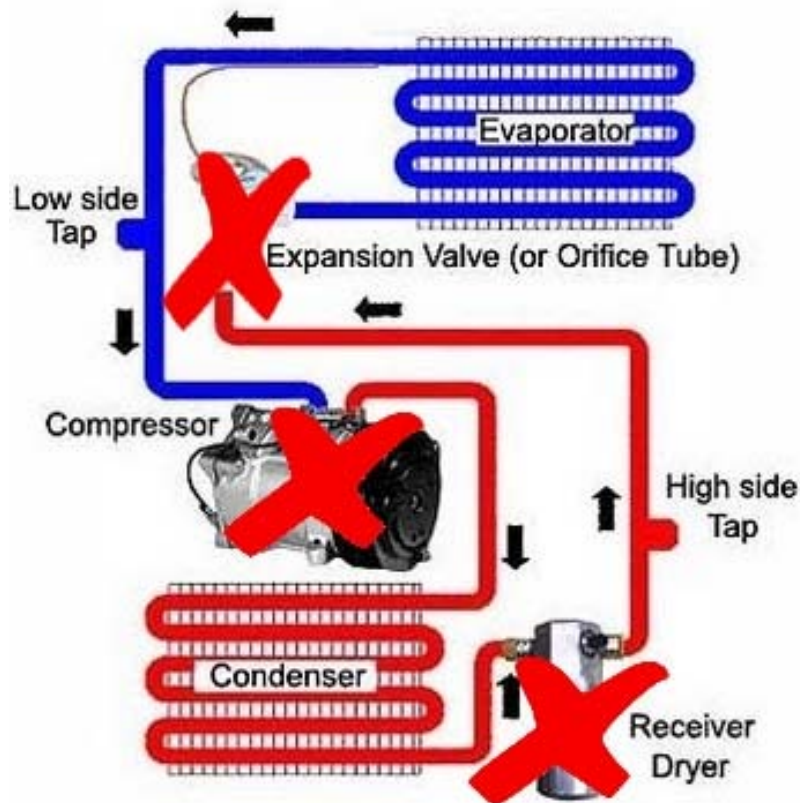
#### 4 CONNECTION TO AN A/C SYSTEM



- Use always protection gloves and glasses
- Use the machine only in well airy rooms
- Use the machine only in opened systems

Disconnect the compressor, the dryer filter and the expansion valve;

Connect the fittings supplied in the kit according to the type of system to be flushed. Tighten the connections in a suitable manner to avoid any fluid leakage during the flushing operation. Divide into sectors the various parts of the system to make the flushing operation more effective.



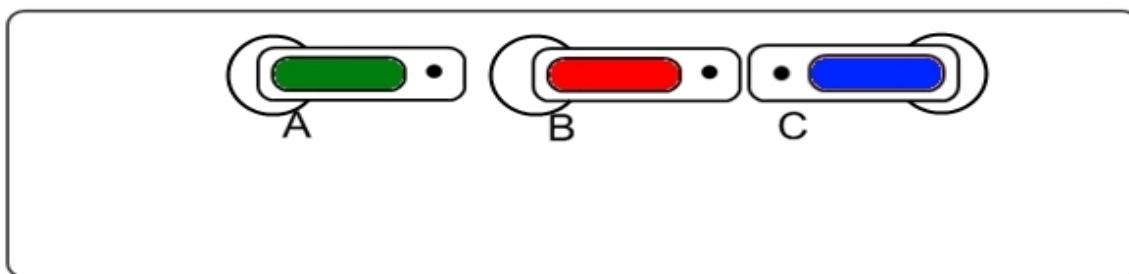
## 5 FLUSHING PROCEDURE

- 1) Unscrew the cap (6) of the tank of KIT LAVAGGIO BUS EVOLUTION and pour the flushing liquid  
(max 20 Liters)

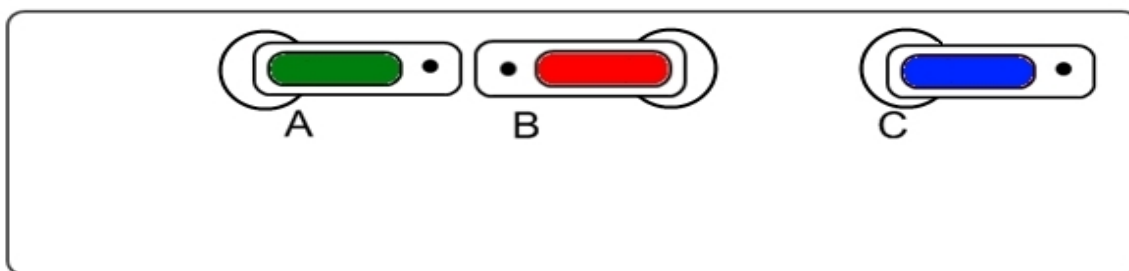


- Use only detergent art. SPIN cod. 01.000.54 or cod. 01.000.90
- Do not use other detergents.
- Using of incorrect detergents can damage the electric pump.
- Do not use the pump when it is empty.

- 2) Connect the inlet hose of KIT LAVAGGIO BUS EVOLUTION at one end of the system to be flushed using appropriate adapters;
- 3) Connect the outlet hose of KIT LAVAGGIO BUS EVOLUTION at the other end of system to be flushed;
- 4) Place the taps following the diagram below;

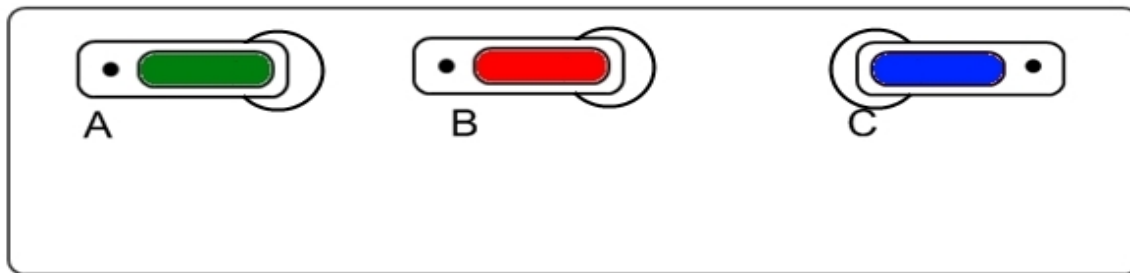


- 5) Turn the pump on with the ON/OFF button (7) and let the liquid circulate for at least 4/5 minutes;
- 6) Turn the pump off;
- 7) Change the setting of the taps following the diagram below;



- 8) Turn the pump on and let the liquid circulate in the opposite direction for at least 4/5 minutes;
- 9) Turn the pump off;

10) Change the setting of the taps following the diagram below;



11) Connect a nitrogen cylinder to KIT LAVAGGIO BUS EVOLUTION (nitrogen inlet 4);

12) Adjust the nitrogen pressure at maximum 5 bar;

13) Adjust the inlet tap for nitrogen (4) to regulate the flow inside the system;

14) The nitrogen pressure will begin to push the flushing liquid remained in the system, within the tank of KIT LAVAGGIO BUS EVOLUTION;

15) Close the inlet tap for nitrogen (4);

16) Disconnect the hoses from the system;

**If necessary repeat the washing in the part of just washed circuit to eliminate any residual of impurity**

## **6 BEFORE RECHARGING THE A/C SYSTEM**

Before recharging the system, it is necessary to:

- check that there are no leaks in the system
- remove all the humidity from the system
- add some oil to reintegrate the quantity

**The quantity and the type of oil may be different for each system. Usually, producer gives some indications on the matter.**

**The vacuum time depends on the type of utilized cleaning liquid, and, especially, on the quantity of humidity, entered into circuit, on the dehumidified air or on the nitrogen during washing operation.**

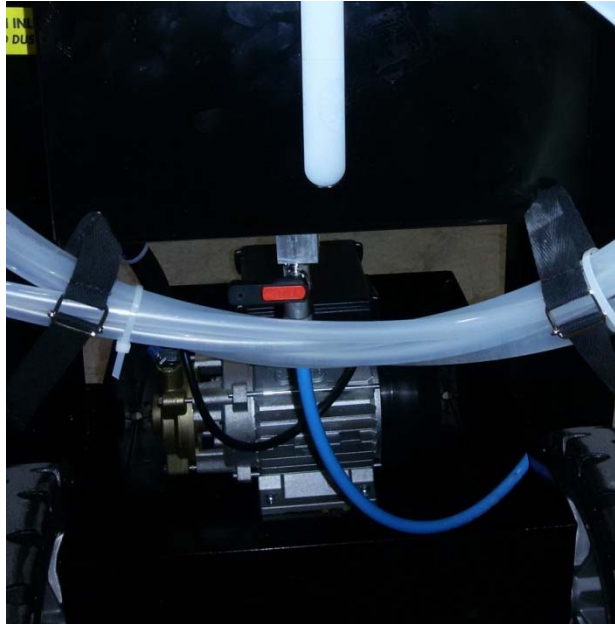


## 7 RECOVERY OF CONTAMINATED FLUSHING LIQUID

Adjust the tap (8) located on the back of KIT LAVAGGIO BUS EVOLUTION to recover the contaminated liquid.



The disposition of the cleaning liquid must be performed according to the local rules



## 8 INSTRUCTIONS FOR CLEANING THE FILTERS

We recommend to clean the filters of KIT LAVAGGIO BUS EVOLUTION every 10 flushing operations.

- 1) Unscrew the filters housing (2-3) placed on the rear side of KIT LAVAGGIO BUS EVOLUTION;
- 2) Remove the inner filters;
- 3) Proceed to the washing of the filters by immersing it for 3 minutes in a container filled with flushing liquid;
- 4) Blow with compressed air;
- 5) Replace the filters.

## 9 GUARANTEE

KIT LAVAGGIO BUS EVOLUTION is guaranteed 12 months since the date of delivery. The guarantee is no more valid if all rules reported on this manual are not regularly respected.