

# DUST FILTERING SYSTEM W.A.F.I.S. built-in version

 MAINTENANCE AND INSTRUCTION MANUAL



## DESCRIPTION

**W.A.F.I.S.** is a dust suction and filtering system (DENTALFARM exclusive patent), which has been expressly studied to be fitted on the sandblasters **BASE MATIC** as right version and for **ORO**, **BASE 2-3-EVO** and **MICRA 1-2-EVO** as left version. It can be also easily connected to any other blasting unit manufactured by Dentalfarm.

The system fully complies with international rules in force related to environmental hygiene.

The WAFIS system definitely solves the problems connected to the toxic dust originated during any sandblasting process by the impact of the abrasive grains on both investment and casting oxidations. The level of dust elimination attained and certified by an official institute amounts to 99.8% of the total dust concentration. The size and the power are related to the requirements of the Dental Laboratories. Maintenance and consumption are very restricted thanks to the high reliability of this entirely pneumatic unit.

## POSSIBILITY OF CONNECTION

Connection of the W.A.F.I.S. to a blasting machine is very simple but different procedures have to be followed according to:

### **A) connection to DENTALFARM models (already pre-arranged):**

- 1) remove the screws connecting the flange of the suction pipe to the working chamber
- 2) insert the screws coming out from the machine into the free holes and tighten the nuts; in such a way the WAFIS is hung to the sandblaster
- 3) unscrew the air feeding cap placed on the air inlet pipe-fitting and screw the pipe-fitting delivered with the unit
- 4) To connect the pneumatic feeding, use a portion of light blue pipe to join the two pipe-fittings (D)
- 5) Connect the plug (E) into the electric socket placed on the base of the sandblaster

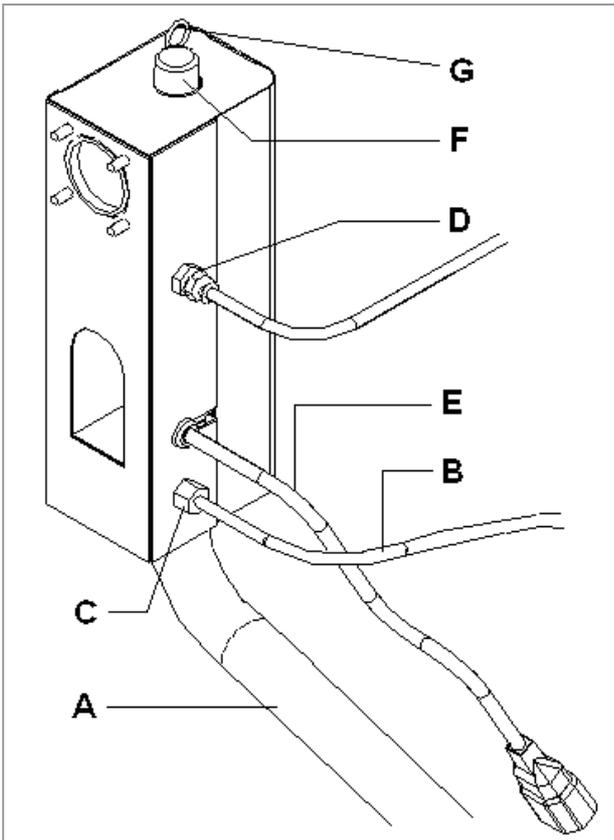
### **B) Connection to other DENTALFARM models which are not pre-arranged:**

- 1) in such a case, the same connection instructions described in the previous chapter can be followed, it will be necessary to modify the air feeding system in order to avail of an additional outlet for the WAFIS

### **C) Connection to other blasting equipment:**

- 1) The installation procedure starts identifying the ideal place where the suction system shall be positioned – namely an easy-to-reach place facilitating the maintenance operation, offering the best condition for the exhaust pipe to fall straight downward and for the elimination of the air saturated with dust.
- 2) Remove the mechanical filter previously used and stop up any possible air leakage
- 3) Drill the holes for the fixing screws (Ø5mm) and for the air intake (Ø43mm or alternatively a sequence of holes Ø10mm) utilising the jig supplied with for the marking
- 4) Assemble a 3-way pipe-fitting on the inlet to operate the pneumatic feeding system
- 5) Feed electrically in series to the lighting system of the sandblaster (when the light is on to start the blasting operation, the suction system will be automatically operated).

**Independently from the type of installation which has been carried out, the machine must have an adjustable air intake to balance the suction power.**



## STARTING PROCEDURE

After the installation it will be necessary to start up the WAFIS system:

- Find a suitable location on the floor for the collection can, the nearest to the machine, and pour in 4-5 liters of water (appr. half of the capacity)
- Introduce one end of the exhaust pipe (A) with the built-in pipe-fitting deeply inside the can upper inlet
- The other end of the exhaust pipe (A) has to be connected to the manifold overhanging from the lower part of the WAFIS. Cut it to prevent it from bending or forming siphons
- place the water feeding pipe (B) near the exhaust pipe, shorten it as needed and fit it on the proper pipe-fitting (C).

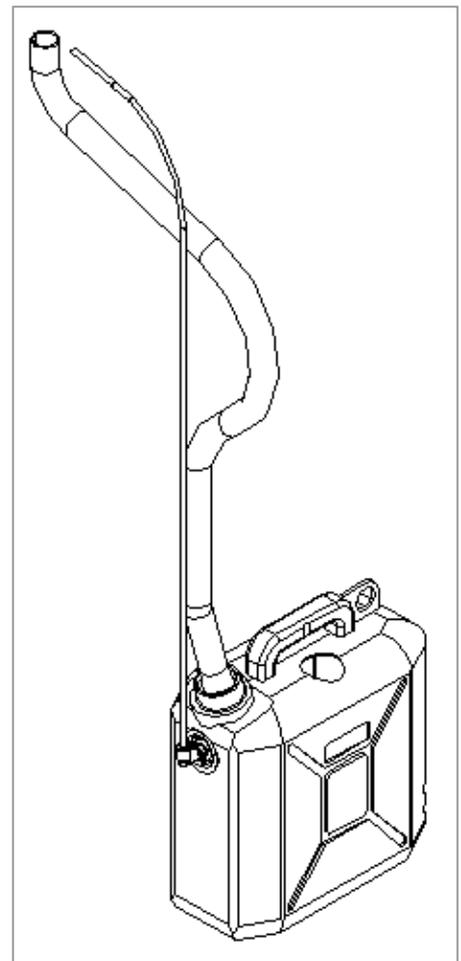
The above schema represents a correct location of feeding and exhaust pipes. A proper installation and maintenance are decisive for the good functioning of the system.

## INSTRUCTIONS FOR USE

The WAFIS system will be automatically operated the moment the light is switched on. The air enters the system, passing through a special ejector which increases its speed, it enters the depressor body where vacuum is originated and causes the air-suspended fine dust particles to be blown out from the working chamber.

The virtual filtration occurs in the lower portion of the pipe where the air saturated with dust is sprinkled with a fine stream of water thus making the suspended solid particles heavier and separating them from the air; the dust particles precipitate into the collection can and accumulate at the bottom.

Adjust the sandblaster air inlet regulation valve in order to find the correct suction performance, avoiding at same time that the blasting chamber stays under vacuum.



## MAINTENANCE INSTRUCTIONS

The system is not built up by any parts subject to wear which require regular replacement such as filters or filtering bags or electric motor susceptible to be damaged by the fine abrasive powder. The only maintenance operations for the WAFIS System consist in a steady cleaning and the assurance that air can flow out freely, without any obstruction.

**ONCE A DAY**, remove the inspection cap (F) and introduce the cleaning swab (G) inside **EVERY WEEK** in case of huge work or alternatively **EVERY 15 DAYS**, remove the connections from the can, empty it, clean it carefully and pour in fresh water.

## TECHNICAL SPECIFICATIONS

Overall dimensions L x D x H	100 mm x 100 mm x 270mm
Net and gross weight	2.3 kg – 3.0 kg
Min working pressure	3 BAR
Max working pressure	6 BAR
Air consumption	50 l/min at 3 BAR – 70 l/min at 5 BAR
Percentage of dust filtration	99.8%
Voltage	220-230 v AC 50Hz

## TECHNICAL REFERENCE REGULATIONS AND TEST PROCEDURES

Every unit is mass-manufactured by DENTALFARM in compliance with technical and safety rules in force, as provided for by the 2006/42 EEC Community Directive on Machinery.

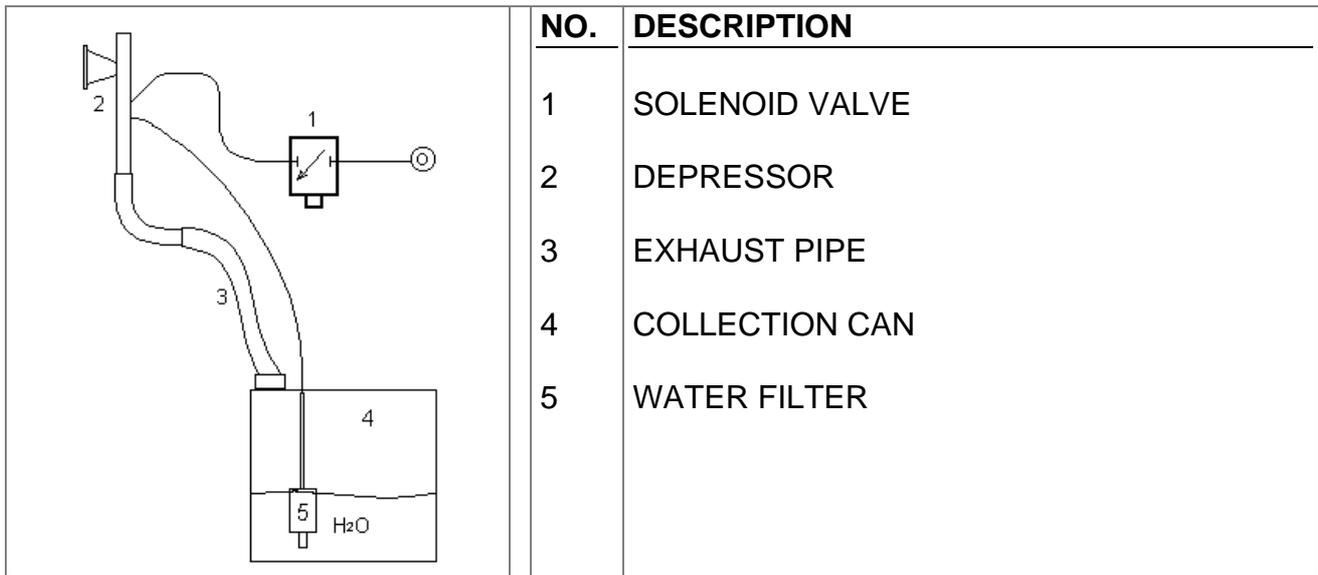
Careful inspection and full routine testing are carried out singularly on each machine, which is furtherly tested by an automatic test installation assuring compliance with the fixed limits.

## DEMOLITION AND WASTE DISPOSAL

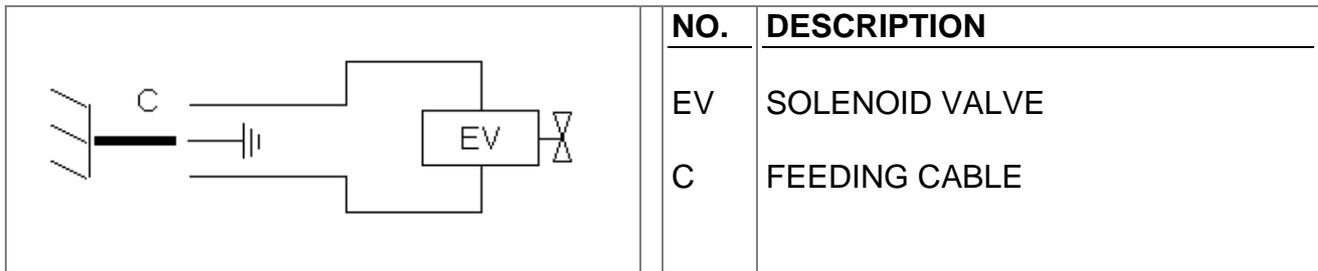
According to International regulations, this unit has been classified as AEE (electric and electronic device, whose correct operation depends on electric currents and electromagnetic fields) and as a consequence, at the end of its lifetime, it can not be treated as normal waste material but it must be disposed separately, complying with the Directive 2002/96/CE.



## PNEUMATIC CIRCUIT

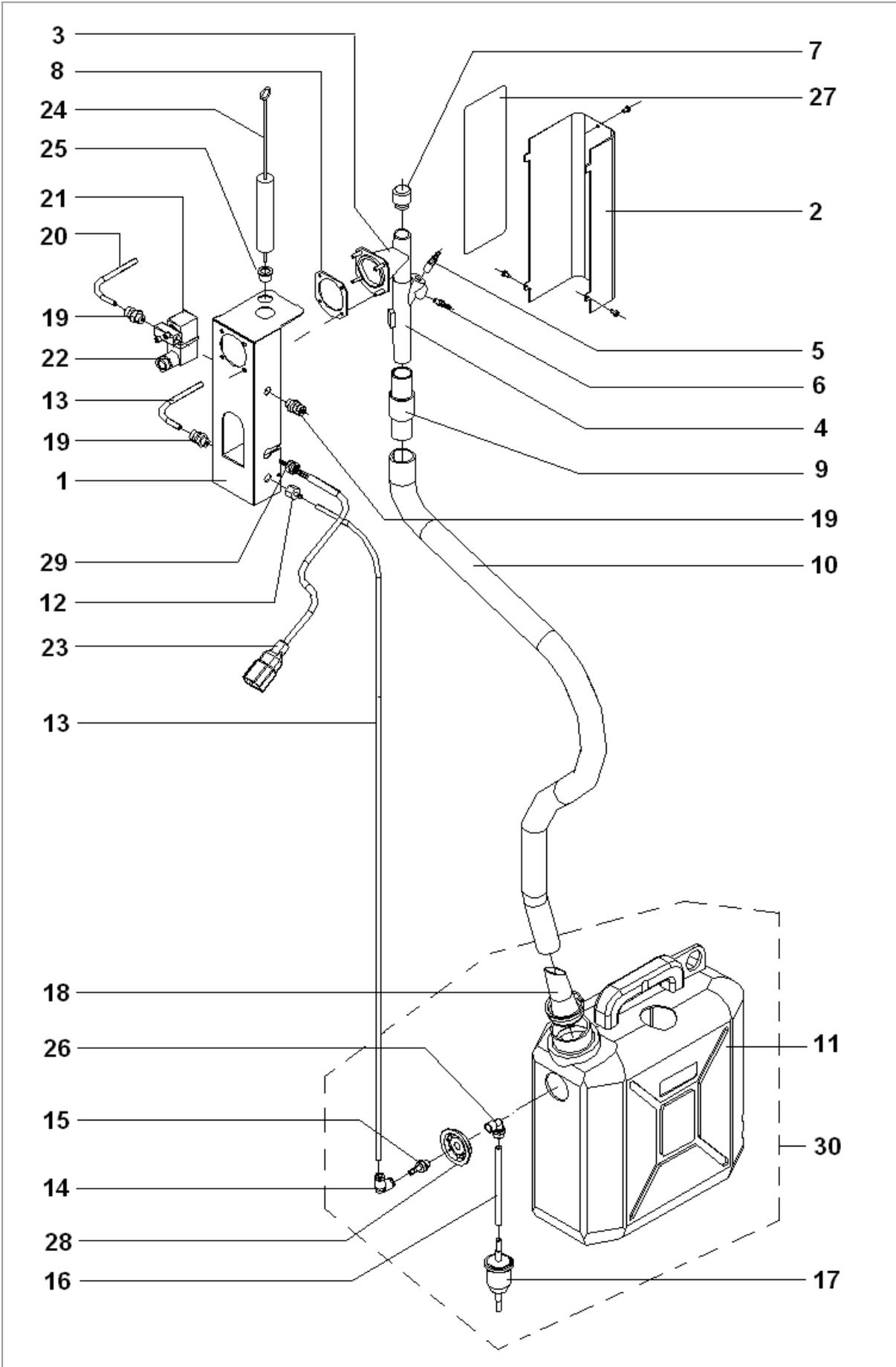


## WIRING DIAGRAM



## EXPLODED DRAWING AND SPARE PART LIST

N°	CODE	DESCRIPTION
1	<b>1201015</b>	WAFIS COMPLETE METAL BODY
2	<b>1201016</b>	WAFIS METAL CAP
3	<b>RCB028</b>	DEPRESSOR COLLECTION PIPE
4	<b>RCB029</b>	DEPRESSOR BODY
5	<b>RCB033</b>	DEPRESSOR AIR INJECTOR
6	<b>RCB034</b>	DEPRESSOR AIR INJECTOR
7	<b>RCB030</b>	DEPRESSOR INSPECTION CAP
8	<b>RWA006</b>	JOINT FOR FLANGE
9	<b>1201019</b>	EXHAUST CONNECTION PIPE
10	<b>NEV061</b>	FLEXIBLE PIPE INTERNAL DIAM. 25mm
11	<b>NVP003</b>	10 L WATER COLLECTION TANK
12	<b>RCB039</b>	1/8" FEM. PIPE-FITTING
13	<b>NVP040</b>	PIPE FOR PNEUMATIC CONNECTIONS
14	<b>NPR020</b>	90° PIPE-FITTING, PIPE D=6
15	<b>NPR015</b>	6- 1/8" ADJUSTING PIPE-FITTING
16	<b>NPV060</b>	8X6 TRANSPARENT PIPE
17	<b>NVI010</b>	WATER FILTER
18	---	CONICAL FITTING
19	<b>NPR111</b>	8X 61/8" MALE STRAIGHT PIPE-FITTING
20	<b>NPV041</b>	BLUE PIPE
21	<b>NES029</b>	2 WAYS ELECTROVALVE - 220V
22	<b>NES029C</b>	CONNECTOR FOR 2 WAYS ELECTROVALVE - 220V
23	<b>NEV014</b>	ELECTRIC CABLE 3X1 WITH IEC320 PLUG
24	<b>RCS044</b>	DEPRESSOR CLEANING SWAB
25	<b>NEA111</b>	PLASTIC FERRULE D.= 16
26	<b>NPR112</b>	90° 8x6 – 1/8" FEMALE PIPE-FITTING
27	<b>1201017</b>	MARK LABEL AND WARNINGS
28	<b>RCB080</b>	FILTER CAP
29	<b>NEA107</b>	CABLE LOCKING RING
30	<b>1201503</b>	COMPLETE 10 L WATER TANK



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