

DUST FILTERING SYSTEM
W.A.F.I.S. Electric Version
 MAINTENANCE AND INSTRUCTION MANUAL



DESCRIPTION

W.A.F.I.S. is a dust suction, filtering and elimination system (DENTALFARM exclusive patent) expressly studied to work in conjunction with the Dentalfarm sandblaster models which can be easily connected to any blasting chamber.

The system fully complies with international existing rules referred to environmental hygiene.

The WAFIS system definitely solves the problems related 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, certified by an official institute, covers 99.8% of the total dust developed.

The size and the power are compared to the requirements of the Dental Laboratories.

Maintenance and consumption are very restricted thanks to the high reliability of this entirely pneumatic machine.

POSSIBILITIES OF CONNECTION FOR THE WAFIS

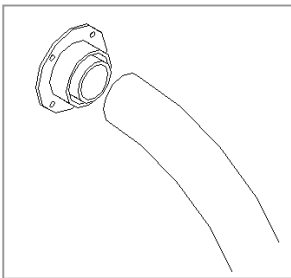
Connection of the WAFIS to a blasting machine is very simple but two different procedures have to be followed according to:

A) if the WAFIS has to be connected **to Dentalfarm already pre-arranged blasters**:

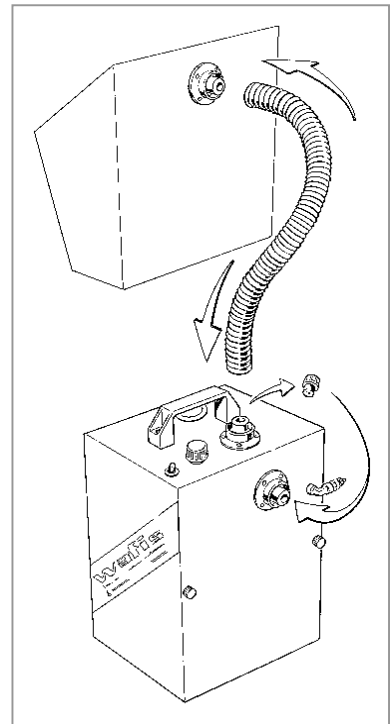
- 1) release the connection flange to the working chamber;
- 2) push and turn clockwise to connect the hose (24) of WAFI.S. on the same flange;
- 3) place your WAFIS on the floor and connect the other end of the pipe to the upper manifold (30), adjusting its length in order to avoid any siphons or very tight curves;

B) if the WAFIS has to be connected to other machines not pre-arranged, and even not manufactured by DENTALFARM, you should:

- 1) remove the dry filtering bag wherever it is located;
- 2) stop up definitively the free hole;
- 3) find a suitable location to connect the dust suction system; we recommend to install it on the back panel of the working chamber, not too low in order to avoid abrasive from being sucked, too but also distant from the area under the blasting jet in order to avoid the pipe from being struck.



- 4) utilize the flange supplied as drilling jig to carry out the four fixing holes ($\varnothing 4,5$ mm) and fix in place with the screws;
- 5) drill additional holes in the middle, having the correct diameter sufficient to ensure the dust particles to blow quickly away;
- 6) turn clockwise to fit the WAFIS flexible hose onto the flange;
- 7) place your WAFIS on the floor and connect the other end of the pipe to the upper manifold, adjusting its length in order not to make siphons or very tight curves.



INSTALLATION INSTRUCTIONS

⚠ **ATTENTION:**

The WAFIS must be positioned on the floor, under or near the bench where the sandblaster has been placed. The connection pipe must fall perpendicularly avoiding any pockets and/or siphons which may collect sediment inevitably causing a loss in the intake power (eventually cut the pipe).

To arrange the machine, follow these instructions:

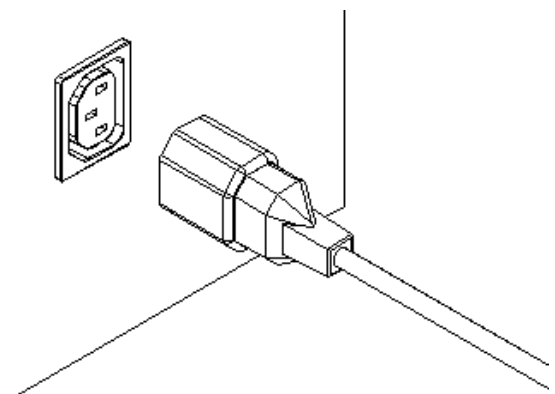
A) fill the internal tank

- loosen the pressure knobs to remove the panel (23)
- remove the air outlet pipe from the water tank (12)
- pull to disassemble the water injector (10) from the depressor body (29)
- lift the connection sleeve (29) making it slide on the smooth side of the depressor (29)
- pull out the tank (14) and fill in with water up to the maximum limit (**WATER LEVEL**)
- re-assemble every component paying attention to the watertight seals.



B) connect pneumatically the machine to proper pipe-fitting (9) (rilsan or polyethylene 8x6 pipe) a special pipe-fitting for the rubber pipe is also supplied, eventually replace.

C) Connect the feeding cable (7) to the proper plug located at the base of the machine (if any) or use the supplied cable (8) to tie into a standard 230V AC outlet with ground.



INSTRUCTIONS FOR USE

To operate the WAFIS system connected to a pre-arranged DENTALFARM sandblaster, it is sufficient to leave the switch (pos. 1) on and turn the light on.

On the other hand, in case the WAFIS is connected to the power outlet, you must turn on acting on its own switch.

The operating principle is very simple: the electric impulse opens the solenoid valve: the air flow will pass from the spraying nozzle, enter the depressor body where, by expanding, it creates vacuum and causes the dust particles to be sucked. The filtering system is originated in the upper portion of the pipe where the air mixed up with dust particles is sprinkled by a fine jet of atomized water; the dust particles become heavier and are then separated from air which can not be moistened and will accumulate on the bottom of the collection tank.

MAINTENANCE INSTRUCTIONS

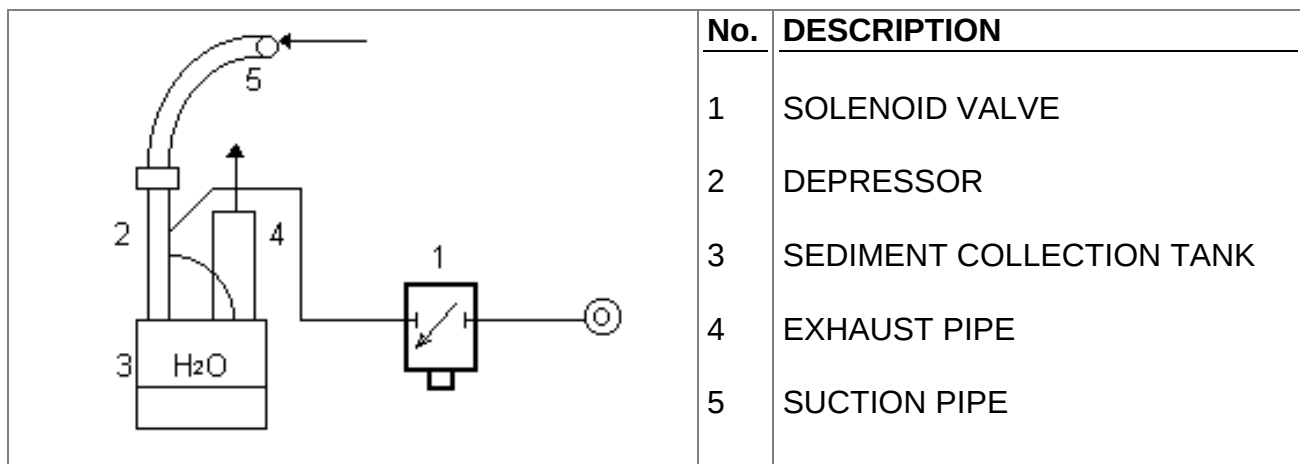
The only maintenance operations required are:

- the regular cleaning of the depressor (30): remove the cap (3) and introduce the cleaning swab (1) provided for that specific purpose - **Frequency: once a day.**
- the water replacement in the internal tank: operate as for the first installation but taking care to clean carefully all the components - **Frequency: once every 15/20 days.**

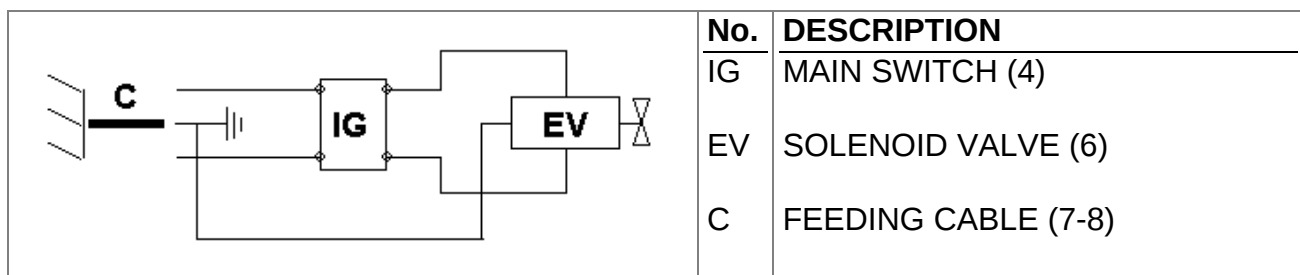
GUIDE TO SOLVE THE PROBLEMS

Problem: DUST IS COMING OUT FROM THE BLASTING CHAMBER	
Possible cause	Remedy
The depressor is clogged	Activate the depression system, remove the cap or the suction pipe, introduce the cleaning swab and let it slide repeatedly to eliminate any residuals. It could also be necessary to clean the connection area between the working chamber and the pipe itself.
The depressor nozzles are dirty or clogged	Pull out the water feeding injector and clean it with a proper tool. Repeat the same operation with the air injector and introduce it in its seat checking that the side opening corresponds to the water inlet.
The water filter is clogged	Replace it.
The exhaust pipe is clogged	Disconnect from the tank, clean the metallic straw (wash and blow), ev. replace.

PNEUMATIC CIRCUIT



WIRING DIAGRAM



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 filtration system.

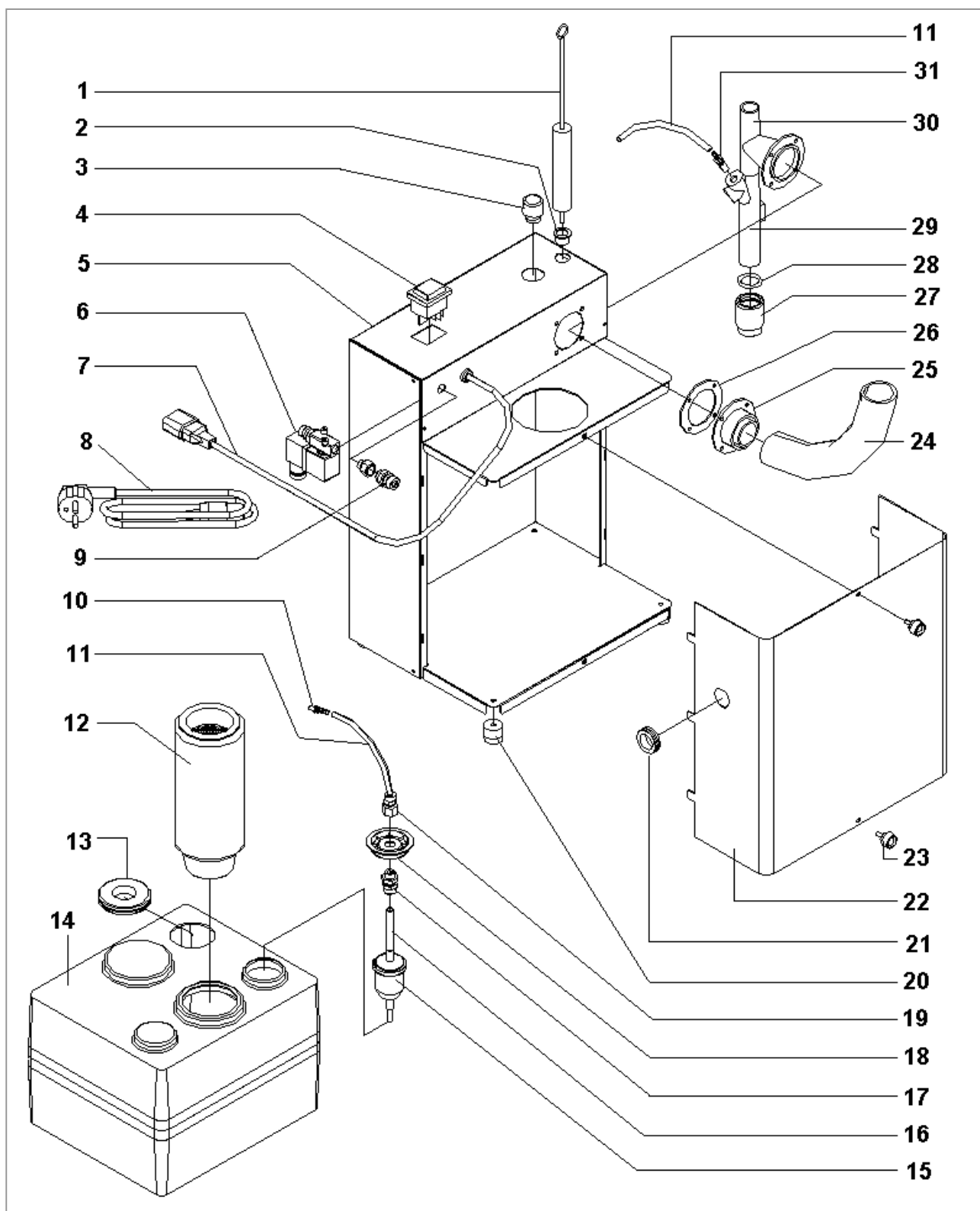
DEMOLITION AND WASTE DISPOSAL

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.



EXPLODED DRAWING AND SPARE-PART LIST

No	CODE	DESCRIPTION
1	RCS044	DEPRESSOR CLEANING SWAB
2	NEA111	PLASTIC FERRULE D.=16
3	RCB030	DEPRESSOR INSPECTION CAP
4	NEC016	MAIN SWITCH
5	1201021	STAINLESS STEEL HOUSING
6	NES029	WAFIS SOLENOID VALVE + CONNECTOR
7	NEV014	ELECTRIC CABLE 3X1 WITH IEC320 PLUG
8	NEV013	FEEDING CABLE
9	NPR119	8x6 1/8" MALE STRAIGHT PIPE-FITTING
--	NPR220	7 1/8" PIPE-FITTING
10	RCB034	DEPRESSOR WATER INJECTOR
11	NVP040	6x4 PIPE FOR PNEUMATIC CONNECTIONS
12	RCB514N	EXHAUST PIPE COMPLETE
13	NEA113	JOINT FOR WATER TANK
14	1201023	FILTERING TANK COMPLETE
15	NVI010	WATER FILTER
16	NVP060	8x6 PIPE FOR PNEUMATIC CONNECTIONS
17	NPR104	8x6 1/8" FEMALE STRAIGHT PIPE-FITTING
18	RCB080	FILTER FITTING CAP
19	NPR111	6x4 1/8" MALE STRAIGHT PIPE-FITTING
20	NVG049	RUBBER FEET
21	NEA101	FAIR-LEAD
22	1201022	MOBILE PANEL
23	NVT151	M 4 KNOB
24	NEV060	30x36 FLEXIBLE CONNECTION HOSE
25	RWA007	SUCTION PIPE FIXING FLANGE
26	RWA006	FLANGE JOINT
27	RCB070	DEPRESSOR MANIFOLD
28	NPOR128	OR128 JOINT ON MANIFOLD
29	1039029	DEPRESSOR PIPING
30	1039028	DEPRESSOR MANIFOLD
--	RCB501	DEPRESSOR COMPLETE
31	RCB033	DEPRESSOR AIR INJECTOR



TECHNICAL DATA

Height	410 mm
Width	275 mm
Depth	220 mm
Net Weight	5.7 Kg
Gross Weight	7.2 Kg
Minimum working pressure	2 BAR
Maximum working pressure	6 BAR
Air consumption	28 l/min at 2 BAR - 63 l/min at 5 BAR
Number of machines which can be connected	2
Maximum distance allowed between devices	1.5 meters
Percentage of eliminated dust	99,8%
Power tension	230v - 50Hz

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