



SANDBLASTER

ORO

 **INSTRUCTION AND MAINTENANCE MANUAL**



DESCRIPTION OF THE MACHINE

The new **ORO** is a compact, fully fitted sandblaster combining practical and ergonomic design to competitive price. ORO has been studied to remove investment particles as well as to carry out satin-finishing operations utilizing the suitable abrasive for use in the Dental, Gold and Jewellery field, thus emphasizing reliability and ease of use of such blasting unit.

The unit is pre-arranged to be quickly and easily connected to the WAFIS dust suction and filtration system (exclusive patent by DENTALFARM), code A1021S or to PRO-3 (A1501) and PRO-3 SHAKE (A1502) extractors.

OPERATING INSTRUCTIONS

<u>/!</u> ATTENTION:	The sandblasting process originates toxic dust which in no way must be inhaled by the Technician. For this reason, it is absolutely forbidden to operate the machine if a proper suction system has not been previously connected to the sandblaster.
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- Place the machine on the work bench.
- Plug in (35) to an approved earthed 220v AC current socket.
- Assemble on the female sleeve (40) overhanging from the right side of the machine, the pipe-fitting most suitable to the pipe-line used in the Laboratory (if in rilsan or polyethylene 8x6, screw the quick clutch - 38; if in rubber 12x6, screw the pipe-fitting - 39 and tighten by means of a hose clamp).
- Fill the working chamber with the appropriate abrasive according to the operations to be carried out (apprx. Kg 6,0) as specified in the above table:

Name	Code	Description
CROMCOR	AP036	Brown corundum grainsize 36 (μ 500 appr.) for chrome-cobalt (may be used with nozzle \varnothing 3,5 on request) pressure 4/6 BAR
OROCOR	AP046	White corundum grain 46 (μ 350 appr.) for non-precious alloys (may be used with standard nozzle \varnothing 3,0) pressure 4/5 BAR
SUPERCOR	AP060	White corundum grainsize 60 (μ 250 appr.) for precious alloys (may be used with standard nozzle \varnothing 3,0) pressure 3/4 BAR
OROBLAST	AP300	Glass-beads - μ 200 – for the satin-finishing of any metal (may be used with standard nozzle \varnothing 3,0) pressure 3/4 BAR

- If the sandblaster is not equipped with the WAFIS dust filtering system and a traditional system is used, it is sufficient to introduce the suction pipe (11) on the flange (10) - (it is also possible to fit a pipe with internal \varnothing 30 or 40 mm). Plug in the electric feeding of the extractor to the socket (21), assuring the automatic operation.

INSTRUCTIONS FOR USE

- Switch on light switch (34), if the dust extraction system connected to the machine is **not** automatically activated by the machine, **always operate the filtering system before starting the blasting process.**
- The air intake on the right side of the device is used to adjust the evacuation speed, by rotating the external section
- Introduce the part to be blasted inside the working chamber and close the window locking pin (19 – assuring the perfect airtight seal on the joint). We remind to close hermetically the machine every time you start to work.
- To start blasting, turn the knob (42) of the air valve (44) (it is possible to measure the intensity of the abrasive jet).

<u>/!\</u> ATTENTION:	Never open the glass window before the compressed air feeding valve has been duly closed.
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MAINTENANCE INSTRUCTIONS

<u>/!\</u> ATTENTION:	Before carrying out any maintenance operations, for safety reasons, disconnect electrical and pneumatic feeding.
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To replace:

- **the worn out nozzle** (26): remove the nozzle-holder cap from the body (25) and introduce a new unit in the same position.
- **the plastic protection screens of the glass window** (17): remove the fixing clips (16), clean accurately the glass and place a new protection screen.
- **the gloves** (18): unscrew the four screws to remove the flange (15), put the new glove on the flange holding band and re-assemble.
- **the air feeding valve** (44): remove the closing cap (41) of the knob (42) by means of a small screwdriver, loosen the pliers nut (set screw wrench 6) and remove the knob; unscrew the valve fixing nut (43) (set screw wrench 15) and disconnect the pipes.
- **the worn out abrasive**: move the chamber forward, remove the cap (32) from the lower part of the machine and let abrasive flow through the exhaust hole. Clean accurately and fill in the hopper with new abrasive (approx. Kg 6,0).

TROUBLESHOOTING

Problem: **NO LIGHTING**

Possible cause	Remedy
Bad electrical connection.	Check that the plug is correctly plugged in.
Switch is damaged.	Check the connections and operation (some dust could have entered inevitably oxidizing and seizing up contacts) - try to blow compressed air and eventually replace.

Problem: **NO AIR**

Possible cause	Remedy
Bad pneumatic connection.	Check connection to the compressor.
Internal pipes are clogged.	Check the connections and condition of pipes up to the outlet end (nozzle).

Problem: **SANDBLASTING IRREGULARITIES**

Possible cause	Remedy
Compressor capacity is not sufficient.	Check compressor features: the minimum capacity must be of at least 150 liters per minute (to assure steady power) and a tank of 100 liters (to assure autonomy).
Pressure is not suitable to the metal to be treated.	Comply with references stated in the table printed on the machine.
Abrasive is not suitable.	Proceed as above.
Abrasive is worn out.	Replace.
Tungsten nozzle is not suited to the abrasive grainsize or it is clogged.	Refer to the table and eventually replace.

Problem: **SPRAYING NOZZLE DISPENSES ONLY AIR, NO ABRASIVE**

Possible cause	Remedy
Tungsten nozzle is worn out.	The original internal diameter is \varnothing 3,0 mm, if too enlarged by abrasive flow, replace it.
Wrong position of nozzle – no abrasive suction.	The nozzle is correctly positioned only when it comes out from the nozzle-holder.
Either the nozzle or the pipes are clogged.	Check if some investment particles have entered the suction pipe or the nozzle body.

Problem: **NO AIR COMES OUT FROM THE PROJECTOR**

Possible cause	Remedy
The projector inside nozzle is clogged.	Remove the cap and clean the injector.
Blasting valve is clogged or dirty.	Close the air intake, disassemble the valve and check; eventually contact the Technical Service.

Problem: NOZZLE-HOLDER CAP COMES OUT DURING SANDBLASTING

Possible cause	Remedy
Pipes and nozzles are obstructed or the abrasive is too rich in investment slags.	Stop up the end of the nozzle and operate the valve; air flow will thus be inverted eliminating any residuals from the piping; ev. replace the abrasive.

Problem: INTERNAL LOSS OF AIR

Possible cause	Remedy
Some of the internal pipes are not duly connected.	Check: polyethylene pipes may not be perfectly calibrated, try to cut a small piece from one end and introduce it in the pipe-fitting; ev. replace.

Problem: DUST IS LEAKING OUT FROM THE GLASS WINDOW

Possible cause	Remedy
Joint is not perfectly airtight.	Check plan of the sheet body, condition of the joint and pressure of the closing dowel on the window.
The filter is clogged or the extraction system is not sufficient.	Check regulary condition of the dry filter or of the extraction system.

TECHNICAL REFERENCE REGULATIONS AND TEST PROCEDURES

The ORO sandblaster is mass-manufactured by DENTALFARM in compliance with technical and safety rules in force, as provided for by the 2006/42 CEE Community Directive on Machinery.

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

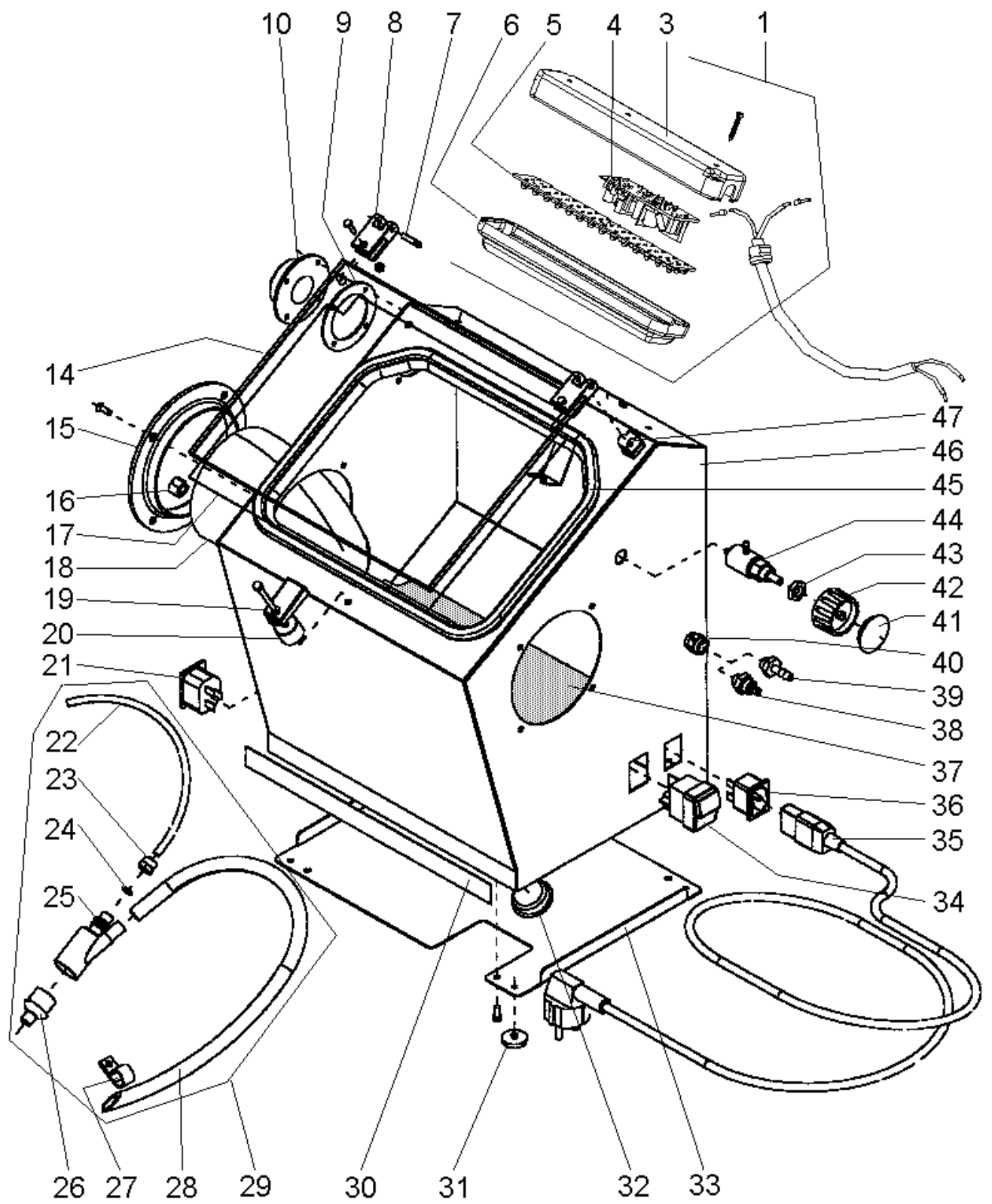
DEMOLITION AND WASTE DISPOSAL

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



EXPLODED DRAWING AND SPARE-PART LIST NEW ORO (A1054)

NO.	CODE	DESCRIPTION
1	1000534	COMPLETE LED LIGHTING SYSTEM
3	1072037	LIGHTING SYSTEM BASE
4	1072040	ELECTRONIC BALLAST
5	1072041	42 LED CIRCUIT
6	1072038	LIGHTING SYSTEM COVER
7	RMBL028	HINGE PIN
8	RCB016A	HINGE (MOVABLE PART)
9	RWA006	JOINT FOR FILTER FIXING FLANGE
10	RWA007	FILTER FIXING FLANGE
14	1048015	GLASS WINDOW
15	RCB017	GLOVE FIXING FLANGE
16	RCB042	PROTECTION SCREEN FIXING CLIP (CONF. x 4 PCS.)
17	1000529	GLASS PROTECTION SCREEN (CONF. x 6 PCS.)
18	RCS130	PAIR OF GLOVES
19	RNO009A	WINDOW LOCKING PIN
20	RE011A	SPACER FOR LOCKING PIN
21	NEA047	FLUSH-MOUNTED SOCKET
22	NPV040	6x4 PIPE FOR PNEUMATIC CONNECTIONS
23	NPR118	RING NUT FOR 6x4 - M10 CONNECTIONS
24	NPOR2025	OR 2025 JOINT
25	RS019	PROJECTOR BODY
26	RS023	TUNGSTEN NOZZLE UNIT – SPRAYING HOLE 3 mm (YELLOW)
27	NEA115	PLASTIC COLLAR
28	NVG011	RUBBER PIPE FOR ABRASIVE SUCTION
29	RS521	BLASTING PROJECTOR COMPLETE
30	1048017	ORO MARK LABEL
31	NVG055	SUCTION FOOT WITH RIVET
32	NVP030	ABRASIVE DISCHARGE CAP
33	1048012	LOWER CLOSING LATCH
34	NEC018	PROTECTED BIPOLAR SWITCH
35	NEV013	ELECTRIC CABLE WITH PLUG AND SOCKET
36	NEA045	FIXED END PLUG
37	1048013	ABRASIVE FILTER
38	NPR119	8x6 - 1/8 STRAIGHT MALE PIPE-FITTING
39	NPR220	7 1/8 AIR CONNECTOR
40	NPR211	1/8 FEMALE SLEEVE CONNECTION
41	NVT109	KNOB CAP
42	NVT108	AIR VALVE KNOB
43	RCS059	VALVE LOCKING NUT
44	RNO501	AIR VALVE COMPLETE
45	1064015	JOINT FOR WINDOW
46	1048010	WORKING CHAMBER
47	RE019A	HINGE PIN (FIXED PART)

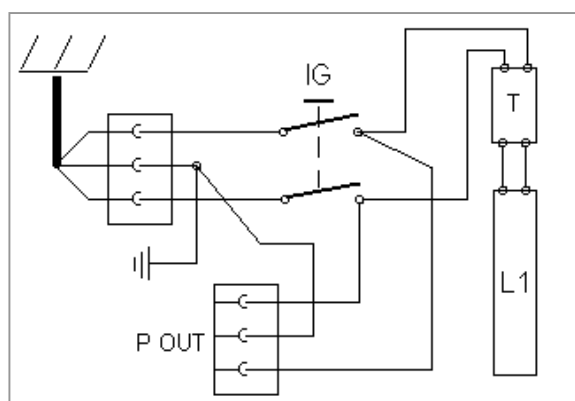


TECHNICAL SPECIFICATIONS

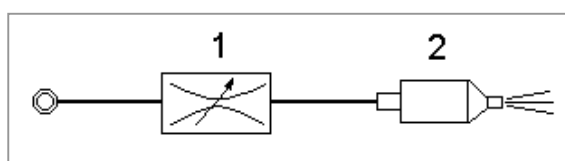
Height	390 mm
Width	350 mm
Depth	290 mm
Net and gross weight	9,2 Kg – 11.2 kg
Working pressure	min. 2 BAR – max. 6 BAR
Air consumption	100 l/min. à 4 BAR
Blasting nozzle	Ø 3,0 mm in tungsten carbide
Lighting	Energy-saving 42 LED circuit
Voltage	230 V - 50 Hz (different voltage available upon request)
Absorption	6 W - 0,2 A
Dust filtration	Connection to the WAFIS filtering system or to PRO-3 and PRO-3 SHAKE extractors

WIRING DIAGRAM

REF.	DESCRIPTION
IG	LIGHT SWITCH
T	ELECTRONIC BALLAST
L1	42 LED CIRCUIT
P OUT	EXTRACTOR SOCKET



PNEUMATIC CIRCUIT



REF.	DESCRIPTION
1	FLOW METERING VALVE
2	BLASTING PROJECTOR

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