

MICROSANDBLASTING CENTER

ideastudio

 USER AND MAINTENANCE MANUAL



Do Not use alcohol-based cleaners

UNIT DESCRIPTION

The “**ideastudio**” finishing centre unit has been developed to carry out finishing operations on prosthetic dental products. It has been engineered for simple installation.

The machine has been designed to be installed quickly and easily. It takes up very little space and does not need to be connected to the electricity grid.

The working chamber is made of transparent methacrylate. It has an interchangeable front screen and access to the inside is via rubber membranes.

The micro-sandblaster allows precise and highly focused operations and, in the standard configuration, can use disposable powders ranging from 95 microns to 110 microns (to identify the correct nozzle please refer to the “Processing Table”).

The working chamber includes a dust extraction system derived from Dentalfarm patented W.A.F.I.S. system. This system is entirely pneumatic, with no motor or traditional suction device; it operates according to the “Venturi effect.” The collected particles are retained in a filter bag that must be periodically emptied and cleaned.

For finer powders (below 95 microns), it is recommended to connect the machine to an external suction unit. To do so, simply unscrew the depressor manifold with its gasket (items 28 and 29) and install the supplied ring nut.

The rear metal structure contains the filter unit, the pressure regulator, the pressure gauge and the foot pedal connections.

The micro-projector is ergonomic, pen-shaped, and easy to handle. The nozzle is small to avoid obstructing the view of the workpiece. The handpiece can be inserted from either the right or left side. Nozzles with different diameters are available and easily interchangeable.

 <u>WARNING:</u>	It is strictly forbidden to use the machine in ways different from those described. If you are sensitive to abrasive jets, wear protective gloves.
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INSTALLATION INSTRUCTIONS

Before putting the unit into operation, remove the front screen (1), eliminate the protective packaging, and retrieve the accessories. Remove the grid (21) from its packaging and place it inside the chamber.

The micro-projector tube (22) must exit the chamber through the holes in the vertical walls; in the standard configuration it exits on the right. If more convenient, switch the position of the plug (19) and route it to the left. Then connect the free end to the blue fitting (47) located at the base of the abrasive container (6) and tighten the ring nut.

To start the unit, a compressed air supply is sufficient.

Procedure:

1. Connect the two foot-pedal tubes to the fittings located on the lower right side of the metal support (the blue tube to the marked fitting).
2. Two connectors are included in the accessory set; screw onto the ball valve (10) the one most suitable for the available tube (8x6 or 6x4).

3. Connect the pneumatic supply to the appropriate fitting (11 or 12) and open the valve.
4. Set the operating pressure (2.5–4 BAR) using the regulator (7): lift the knob and tighten to increase pressure or loosen to decrease it, then push the knob down to lock it.
5. Test the system without load: suction activates immediately and, by pressing the pedal (26), air enters the container and exits through the nozzle (20); when finished, close the ball valve.
6. Fill the container with aluminum oxide of the desired grain size or with glass beads: unscrew the top cap (43) and, using the supplied funnel, slowly pour in the material, then close tightly.
7. If using powders with a grain size smaller than 95 microns, it is recommended to connect the unit to an external suction system using the supplied ring nut.

Note: Always follow the parameters related to nozzle diameter.

PROCESSING TABLE

For different powders, replace the feed tube (45) and nozzle (49).

P.N.	Be sure to respect the usage parameters as shown in the table below, for other products contact the Technical Service.
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OPERATION	RECOMMENDED ABRASIVE	NOOZLE DIAMETER	PRESSURE
Zirconia roughening	(AL2O3 270 - 50μ) AP-270 Yellow label	0,8 mm (RMN044)	2,5-4 BAR
Surface roughness on metals for ceramics	(AL2O3 180 - 80μ) AP-180 Red label	0,8 mm (RMN044)	3-4 BAR
Surface roughness on metals for ceramic or resin	(AL2O3 150 - 95μ) AP-150 Green label	0,8 mm (RMN044)	3-4 BAR
Surface roughness on metals for composites	(AL2O3 120 - 105μ) AP-120 Pink label	1,2 mm (RMN043)	3-4 BAR
Polishing satin finish on any metal	MICROBLAST AP-090 White label	+ accuracy 0,8 mm	3-4 BAR
		+ speed 1,2 mm	3-4 BAR

If it is necessary to use finer or larger powders than those mentioned, it is necessary to replace the feed barrel (45) and the dispensing nozzle (49), we therefore recommend contacting the Technical Service.

<u>⚠</u> <u>CAUTION:</u>	Micro powders are highly hygroscopic and must be kept in a dry place, with the container tightly closed. If necessary, place a sachet of hygroscopic salts (silica gel) inside and replace it periodically. When filling the machine's container, check the condition of the product: if the intrinsic moisture content is too high (poor flowability and presence of lumps), it is advisable to heat the required quantity to promote drying.
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OPERATING INSTRUCTIONS

After installation:

- Open the ball valve
- Place object inside chamber
- Hold micro-projector and press pedal
- Close valve after finishing

MAINTENANCE

In sandblasting machines, many parts are subject to wear due to the passage and projection of abrasive materials; below are the procedures for replacing worn or damaged parts.

<u>/!\ CAUTION:</u>	Disconnect pneumatic supply before maintenance.
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Replacement of the Front Protective Screen

When the transparent front screen deteriorates due to abrasive rebound, it must be replaced; simply remove it from the upper and lower slots.

Periodic Cleaning of the Working Chamber

The transparent methacrylate box must be cleaned using neutral detergents free of alcohol and abrasive agents. The sand that accumulates at the bottom must be removed periodically; after lifting the grid, use a vacuum cleaner.

Nozzle Replacement

The micro-sandblaster nozzle (49) wears out over time and must be replaced. To do this, unscrew the ring nut (48) and install the new nozzle.

Replacement of Wear Parts (tube, fitting, and micro-projector body)

The soft polyurethane tube (54), the stainless steel body (51), and the outlet fitting (47), through which the abrasive flows, wear out and must be replaced; simply unscrew the connecting ring nut and remove them from their housing.

Replacement of Internal Parts of the EASY module

If it becomes necessary to replace internal parts of the PRESSURE BLASTER—such as seals, air injector, or the metal tube with abrasive dosing system—due to wear or breakage, contact the Technical Service.

Cleaning or Replacement of the Filter Bag

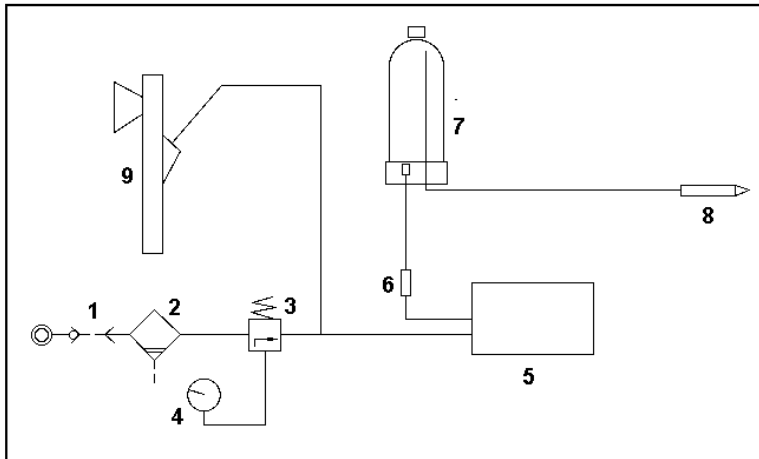
The filter bag (35) retains suspended solid particles; it must be periodically removed from the depressor body, emptied, and cleaned.

REFERENCE TECHNICAL STANDARDS AND TEST METHODS

The micro-sandblaster is mass-produced by Dentalfarm in compliance with applicable technical and safety standards, in accordance with the provisions of the Machinery Directive 2006/42/EC. Each unit is individually tested for all functional aspects.

This equipment is not classified as EEE (electrical or electronic equipment dependent on electric currents or electromagnetic fields for proper operation) and therefore does not fall within the scope of Directive 2002/96/EC.

PNEUMATIC DIAGRAM



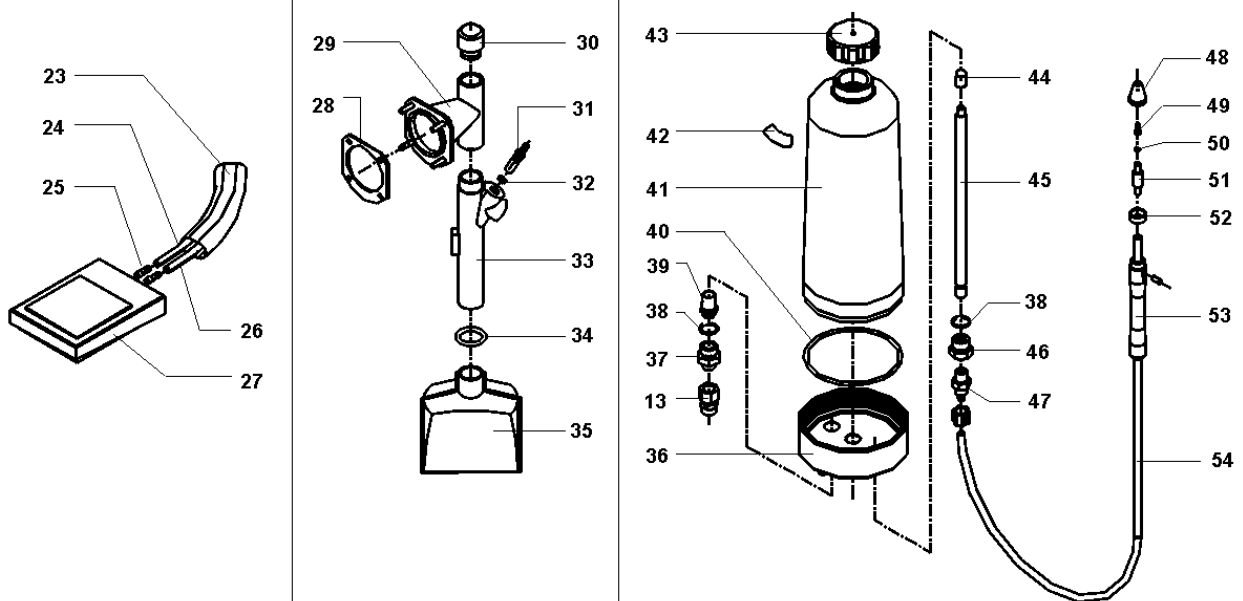
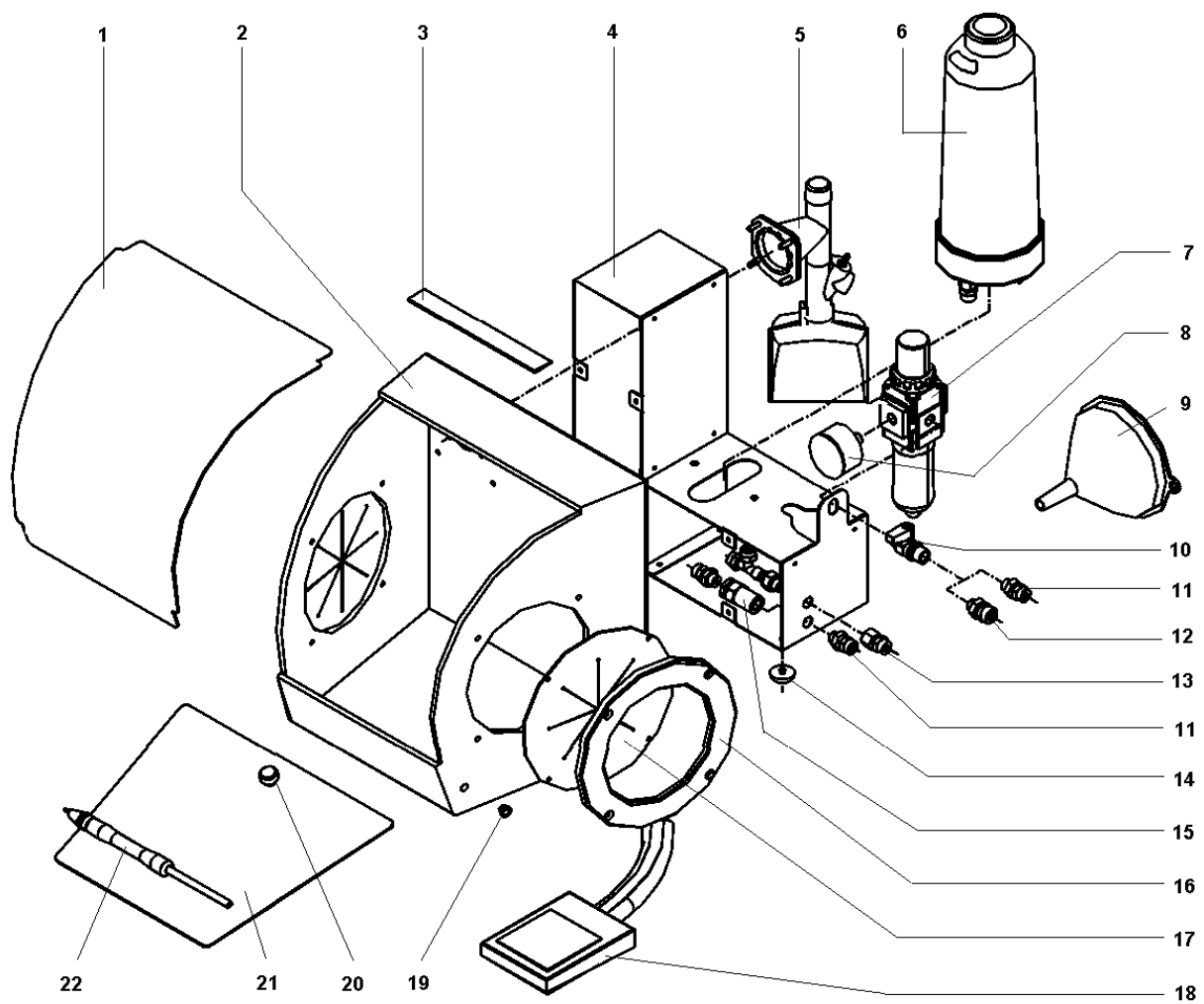
SIM.	DESCRIPTION
1	Ball valve
2/3	Filter-reducer group
4	Pressure gauge
5	Foot control
6	5μm filter
7	Abrasive container
8	Microprojector
9	Pneumatic depressor

TECHNICAL TABLE

Width	300 mm
Depth	330 mm
Height	330 mm
Empty weight	4 Kg
Standard nozzle	Tungsten Carbide Ø 0,8 mm
Minimum pressure	2,5 BAR
Max pressure	4,0 BAR
Air consumption	45 l/min at 3 BAR with nozzle Ø 0,8 mm
Minimal usable abrasive	50 μ
Maximum usable abrasive	105 μ
Container capacity	800 g
Suction system	pneumatic
Filtration system	dry fiber bag
External suction	optional

EXPLODED DRAWING AND SPARE PARTS LIST

Pos.	Code	Description
1	1066103	POLYCARBONATE SCREEN
2	1066101	TRANSPARENT METHACRYLATE BODY
3	1066125	BRAND LABEL
4	1066124	METALLIC SUPPORT
5	---	COMPLETE DEPRESSOR
6	100072U	COMPLETE ABRASIVE CONTAINER
7	NPS029	FILTER - REDUCER GROUP
8	NPS040	PRESSURE GAUGE
9	NVP020	FUNNEL
10	NPS053	BALL VALVE M / F 1/8"
11	NPR111	REC. STRAIGHT MALE 6x4 1/8 "
12	NPR119	REC. STRAIGHT MALE 8x6 1/8 "
13	NPR102	REC. STRAIGHT FEMALE 6x4 1/8 "
14	NVG055	RUBBER BUMPERS
15	NPV025	IN LINE FILTER 5my
16	1024032	LABYRINTH RETAINING FLANGE
17	1066107	CUT RUBBER MEMBRANE
18	1032505	COMPLETE FOOT CONTROL
19	NPV034	PLASTIC CAP D. = 7
20	NVT151	M4x10 MALE KNOB
21	1066102	INTERNAL SEPARATOR
22	10006055	COMPLETE MICROPROJECTOR (BLACK - NOZZLE 0.8)
23	NEV031	PEDAL TUBE SHEATH
24	NVP040	TRANSPARENT 6x4 TUBE
25	1049019	REC. HOSE HOLDER 6x4 M5
26	NVP041	TUBE 6x4 BLUE
27	NPS0500	PNEUMATIC PEDAL
28	1201006	GASKET DEPRESSOR
29	1039028	DEPRESSOR MANIFOLD
30	1039030	DEPRESSOR CAP
31	1039033	AIR DEPRESSOR NOZZLE
32	NPORS1-2	O-RING S1-2
33	1039029	DEPRESSOR BODY
34	NPOR128	GASKET OR 128
35	1048005	FILTER BAG
36	1072002P	CONTAINER BASE IN NYLON
37	1072004A	REC. FILTER CONNECTION
38	NPOR2043	GASKET OR 2043
39	NPV020	1/8 "SINTERED FILTER
40	NPOR3300	GASKET OR 3300
41	1072003	ABRASIVE CONTAINER
42	1076100	MODULE CONTENT IDENTIFICATION LABEL
43	NVT165	1/2 "CONTAINER CAP
44	1072007	CAP ON BARREL ABRASIVE FEEDING
45	1072006	ABRASIVE FEEDING BARREL
46	1072005	REC. BARREL CONNECTION
47	NPR111P	REC. STRAIGHT MALE 6x4 1/8 "IN BLUE PLASTIC
48	1067007	NOZZLE LOCKING RING
49	1039044	TUNGSTEN NOZZLE HOLE 0.8
-	1039043	TUNGSTEN NOZZLE HOLE 1.2 (OPTIONAL)
50	NPOR2012	GASKET OR 2012
51	1067006	MICROPROJECTOR BODY
52	1067022N	BLACK HANDLE IDENTIFICATION RING
53	1067005	MICROPROJECTOR HANDLE
54	NPV042	SOFT POLYURETHANE TUBE
55	1201007	FILTER FIXING FLANGE



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