CE

SANDBLASTER

BASE

🕮 USER AND MAINTENANCE MANUAL

dentalfarm

DENTAL EQUIPMENT SINCE 1972

1. TECHNICAL DETAILS

Height	445 mm
Width	415 mm
Depth	305 mm at base – 370 mm overall
Net and Gross weight	9,0 kg – 11,5 kg
Voltage	230 V - 50 Hz (different tensions available on demand)
Absorption	60 W - 1,4 A
Lighting	Energy-saving 42 LED circuit
Dust filtering system	Possibility to add-on the built-in WAFIS system or PRO-3; compatible with traditional extractors

Devesting pressure	min 2,5 BAR - max 6,0 BAR
Air consumption	100 l/min. at 4 BAR
Blasting nozzle	∅ 3,0 mm tungsten carbide nozzles
Abrasive grainsize min - max	mesh 80 (200μ) – mesh 36 (500μ)

2. DESCRIPTION

BASE 3 is a sandblasting unit designed for devesting and finishing operations in the Dental and Jewellery branch.
The main features of the machine are: the ergonomic layout of the working chamber, the safety of use, and the trouble-free structure of the mechanical installation. **BASE** is equipped with useful accessories and ensures a fast, practical and accurate work.

The sandblasting process originates toxic dust which must not be inhaled; for this reason, **it is absolutely forbidden to operate the machine if a proper suction system has not been previously connected to the sandblaster.**
DENTALFARM has developed the so-called W.A.FI.S. (WATER AIR FILTERING SYSTEM), a patented solution which eliminates airborne dust thanks to the combined action of water and air pressure, in compliance with hygiene and safety regulations. The WAFIS system can be easily connected on the top left side of the machine and starts automatically when the sandblaster is witched on.
DENTALFARM ranges also include **PRO-3** and **PRO-3 Shake** suction units, which can be easily connected to any sandblasting machine.

3. TECHNICAL REFERENCE REGULATIONS AND TEST PROCEDURES

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

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

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 Directive 2002/96/EEC.

4. INSTALLATION INSTRUCTIONS

/!\ ATTENTION	Installation of this machine is quite easy but must be carried out paying utmost attention in order to avoid any mistake which may originate problems, inconveniences and even damages during operation.

1. Place the machine on a proper workbench, which must be stable and strong enough to hold the machine safely. Keep a sufficient distance (10/15 cm) on the right side of the machine for the pipes, the feeding cables, as well as in order to have access to the shutter and the filter (F). If a built-in WAFIS system is fitted, preferably choose a workbench and a position (for instance on the bench edge) allowing the exhaust pipe to fall perpendicularly into the collection tank.
2. Insert the quick clutch fitting on the male intake (A) located on the right side of the unit and connect the pneumatic feeding pipe (polyethylene or rilsan, with diameter ∅ 8x6) to the pipe-fitting. It is also possible to use a ∅ 12x6 elastic feeding pipe, by using the fitting supplied with the unit.
3. Connect the electric feeding cable to the pre-fitted electric socket on the unit (B) and plug into an approved 220v AC - 50Hz network socket with ground connection.
4. Install the preferred suction system; WAFIS, PRO-3 or any other.
   The built-in WAFIS should be installed on the top left side of the unit: unscrew the 4 screws fixing the black collection intake and mount the WAFIS, unscrew the cap (C) and replace it by the pipe-fitting delivered in the package, put together with the other portion of pipe and plug the feeding cable into the electric socket (D).

   PRO-3 suction units should be connected by inserting the collection pipe into the pre-fitted intake.
   Any other suction system can be connected to the black collection intake by means of flexible piping; the inside manifold fits a ∅ 30mm pipe, the outside manifold fits a ∅ 40mm pipe.
5. Adjust the air flow to avoid the machine being under vacuum. Slightly turn the mobile section of the adjusting valve when the suction system is on and stop when you notice that the gloves are still slightly inflated.
6. Lift the window and **completely fill the hopper** with the appropriate abrasive (observe the indications below as for dimensions of nozzles and correct working pressure).

Name	Code	Description
CROMCOR	**AP-036**	Brown corundum, grainsize 36 (500 μ) for chrome-cobalt (may be used with nozzle ∅ 3,5 – white cap – upon request)
OROCOR	**AP-046**	White corundum, grainsize 46 (350 μ) for non-precious alloys (may be used with standard nozzle ∅ 3,0)
SUPERCOR	**AP-060**	White corundum, grainsize 60 (250 μ) for precious alloys (may be used with standard nozzle ∅ 3,0)
OROBLAST	**AP-300**	Glassbeads, 200 μ – for satin-finishing of any metal (may be used with standard nozzle ∅ 3,0)

5. INSTRUCTIONS FOR USE

- Press the switch to illuminate the working chamber and feed the operating controls.

/!\ ATTENTION:	May we remind that the sandblasting process will start only provided the suction system is operating – as a consequence, the filtering system **MUST** always be installed and **OPERATED BEFORE** you start to work.

- Lift the window to introduce the pieces to be treated into the working chamber.
- Operate the foot control: the abrasive will be sucked from the bottom of the chamber and thus producing the correct blasting mixture;
- Adjust the working pressure by means of the pressure adjusting device located next to the pressure gauge: lift the knob and turn it rightwards (to increase) or leftwards (to decrease). To lock the knob, push the knob back down.

The window is made of anti-scratch polycarbonate material, resisting to the rebounding abrasive grains. We recommend to use a soft cloth to clean it and to remove the dust from inside and the use of ptotection screens (code 1000532).

6. MAINTENANCE

Many of the components of any sandblasting machine are subject to wear: this is caused by the circulation of abrasive media; the instructions for a careful maintenance of the machine as well as the operations to replace the damaged or worn out parts are specified here below.

/!\ ATTENTION:	Before carrying out any maintenance operation inside the working chamber or technical repair of the connections, remove the feeding cable both from network socket and from the rear of the machine; in such a way, both the electric and pneumatic installation of the unit will be fully disconnected. Should you have any doubts or difficulties, pls contact our Technical Service to avoid any risks or damages.

Replacement of the polycarbonate window
Although the window is anti-scratch, it may be damaged by an extensive use (or a bad maintenance). Replacement is very simple: locate the screws which fix the window to the hinges and unscrew them.

Replacement of the plastic protection screens of the glass window: remove the fixing clips, clean accurately the glass and place a new protection screen.

Replacement of gloves
The gloves are made of highly resistant rubber, but are subject to the natural ageing of rubber and to the action of sweat (produced by hands). This cause them to dry up. To replace them, unscrew the flange screws and fit a new pair of gloves into the proper seat.

Replacement of the devesting nozzle
The devesting nozzle, even if made of tungsten carbide, known as a very hard material, will inevitably wear out, due to the continuous flow of abrasive and will therefore need to be replaced periodically. Remove the nozzle cap and insert a new group, paying attention to thoroughly fit it into the plastic body.

Replacement of abrasive media
To replace used abrasive media, pull the machine forward, lift the internal filtering grid, remove the cap from the bottom of the working chamber and let abrasive flow out, collecting it into a proper container.

7. TROUBLESHOOTING

Problem: **THE MACHINE DOES NOT START**	
Possible cause	**Remedy**
Lack of tension	Check: - magnetothermic switch - socket supply switch - fuses of the feeding board
Lack of distribution in the machine	Check: - socket connection - network fuse Should this malfunction repeat, contact our TECHNICAL SERVICE.

Problem: **NO LIGHTING**	
Possible cause	**Remedy**
Bad electrical connection	Check that the electrical plug is correctly plugged in.
Shutter is damaged	Check connections and operation (some dust could have oxidized contacts so that they seized up). Try to blow with compressed air and replace if needed.

Problem: **NO AIR IS COMING OUT**	
Possible cause	**Remedy**
Bad pneumatic connection	Check connection to the compressor.
Internal pipes are clogged	Check connections and condition of pipes up to their end (nozzles).
Air filter is clogged	Check and disassemble, if needed, the moisture collection glass and replace the internal filtering element.

Problem: **THE BLASTING FLOW ISIRREGULAR (devesting)**	
Possible cause	**Remedy**
Compressor is not efficient enough	Verify the features of the compressor, as this must provide a minimum power of 150 l / min (to ensure proper performance) and a 100 l tank (to ensure capacity).
Working pressure is not suitable for the metal to be treated.	Observe the prescriptions contained in the detail table of this manual.
Abrasive not suitable	As above.
Abrasive is exhausted	Replace with new abrasive.
Nozzle is not suitable or is worn out.	Observe the prescriptions contained in the detail table of this manual. Replace if needed.

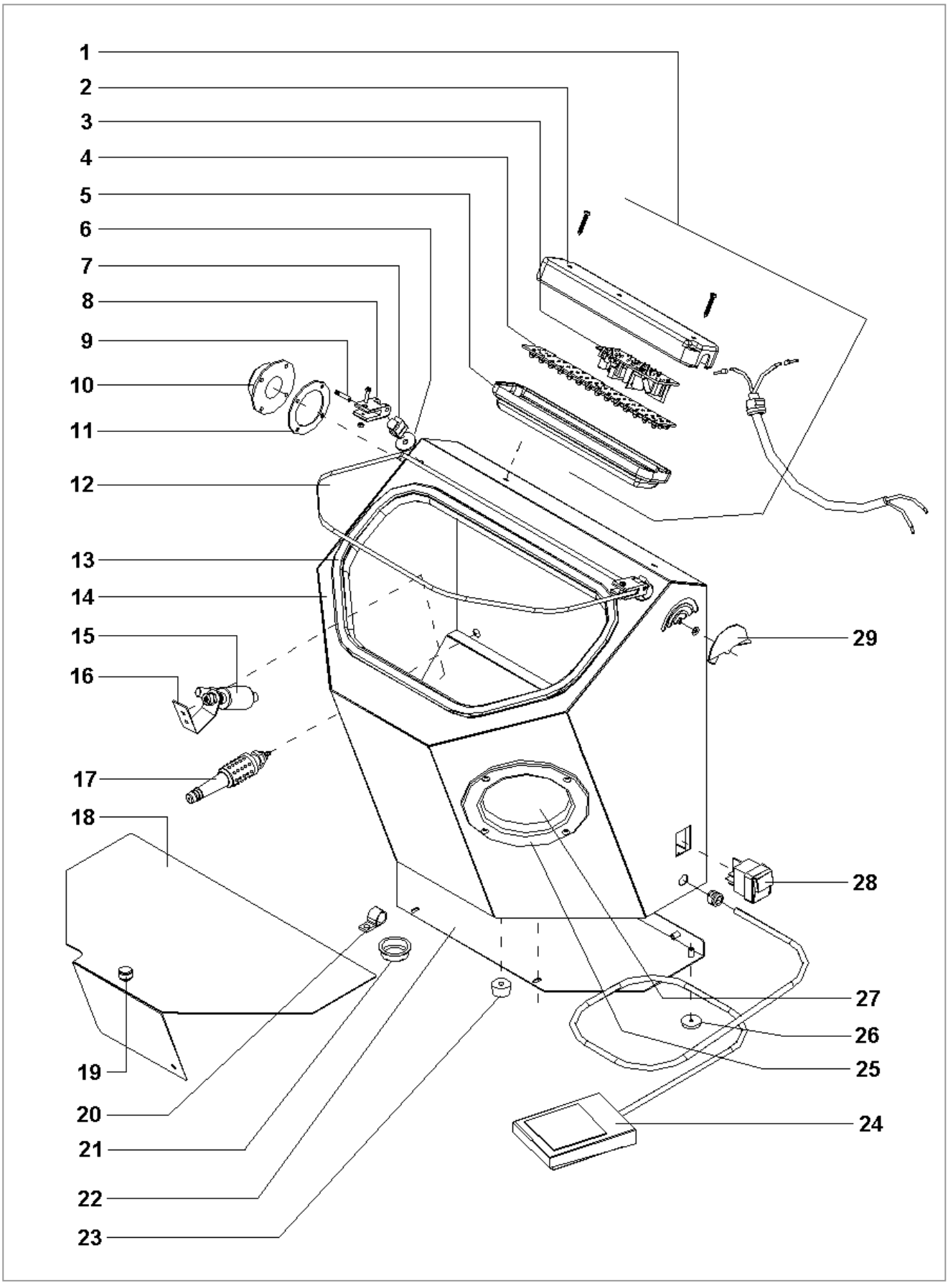
Problem: **NO AIR COMES OUT FROM THE PROJECTOR (devesting)**	
Possible cause	**Remedy**
The internal projector nozzle is clogged.	Remove the cap and clean the injector.
Solenoid valve is clogged.	Close air inlet, remove the coil and the core and clean; eventually get in touch with our Technical Service.

Problem: **NOZZLE-HOLDER CAP COMES OUT DURING WORK (devesting)**	
Possible cause	**Remedy**
Both piping and nozzle are clogged.	Close up the end of the nozzle and press the foot-control; the operating air flow will thus be inverted, eliminating any obstruction from inside the pipes. Should this irregularity repeat too often, remove abrasive from the hopper and filter it.
Worn out and pulverised abrasive.	Replace the abrasive, as this could be mixed with fine particles or investment residuals which will never go through the nozzle spraying hole.

Problem: **INTERNAL AIR LEAKAGE**	
Possible cause	**Azione correttiva**
Condensate discharge on the filter.	The condensate discharge is carried out by the lifting of a ball cock. A sufficient level of pressure must be provided for the valve to close.
Internal pipes are disconnected	Check condition of the piping. Polyethylene pipes might not be perfectly calibrated; try to cut out a small portion from the end of the pipe and insert it into the pipe-fitting; if needed, replace the pipe.

8. EXPLODED DRAWING AND SPARE PART LIST – BASE – table 1

NO.	CODE	DESCRIPTION
1	**1000534**	COMPLETE LED LIGHTING SYSTEM
2	**1072037**	LIGHTING SYSTEM BASE
3	**1072040**	ELECTRONIC BALLAST
4	**1072041**	42 LED CIRCUIT
5	**1072038**	LIGHTING SYSTEM COVER
6	**1069010**	PVC WASHER FOR HINGE
7	**1054019A6**	HINGE FIXED PART HOLE 6mm
8	**RCB016A**	HINGE MOVABLE PART
9	**RMBL028**	PIVOT FOR HINGE
10	**RWA007**	SUCTION HOSE
11	**RWA006**	JOINT FOR SUCTION HOSE
12	**1072029**	POLYCARBONATE WINDOW FOR BASE MODELS
	1000532	PACK OF 6 GLASS PROTECTION SCREENS
	RCB042	PROTECTION SCREEN FIXING CLIP
13	**1064015**	GLASS JOINT
14	**1072021S**	WORKING CHAMBER
15	**RS521**	DEVESTING PROJECTOR COMPLETE
16	**1072028**	PROJECTOR SUPPORT
17	**NPS001**	AIR BLOWER
18	**1072025**	ABRASIVE FILTERING GRID
19	**NVT151**	MALE KNOB M4x10
20	**NEA115**	PLASTIC COLLAR D. 14
21	**NVP030**	PLASTIC CAP D.=31
22	**1072024S**	LOWER CLOSURE BASE
23	**NVG049**	RUBBER FOOT H=19
24	**NEC050**	ELECTRIC FOOT CONTROL
25	**RCB017**	GLOVE FLANGE
26	**NVG048**	RUBBER FOOT H=12
27	**RCS130**	PAIR OF GLOVES
28	**NEC018**	PROTECTED BIPOLAR SWITCH
29	**1072033**	CAP ON BASE/MICRA SUCTION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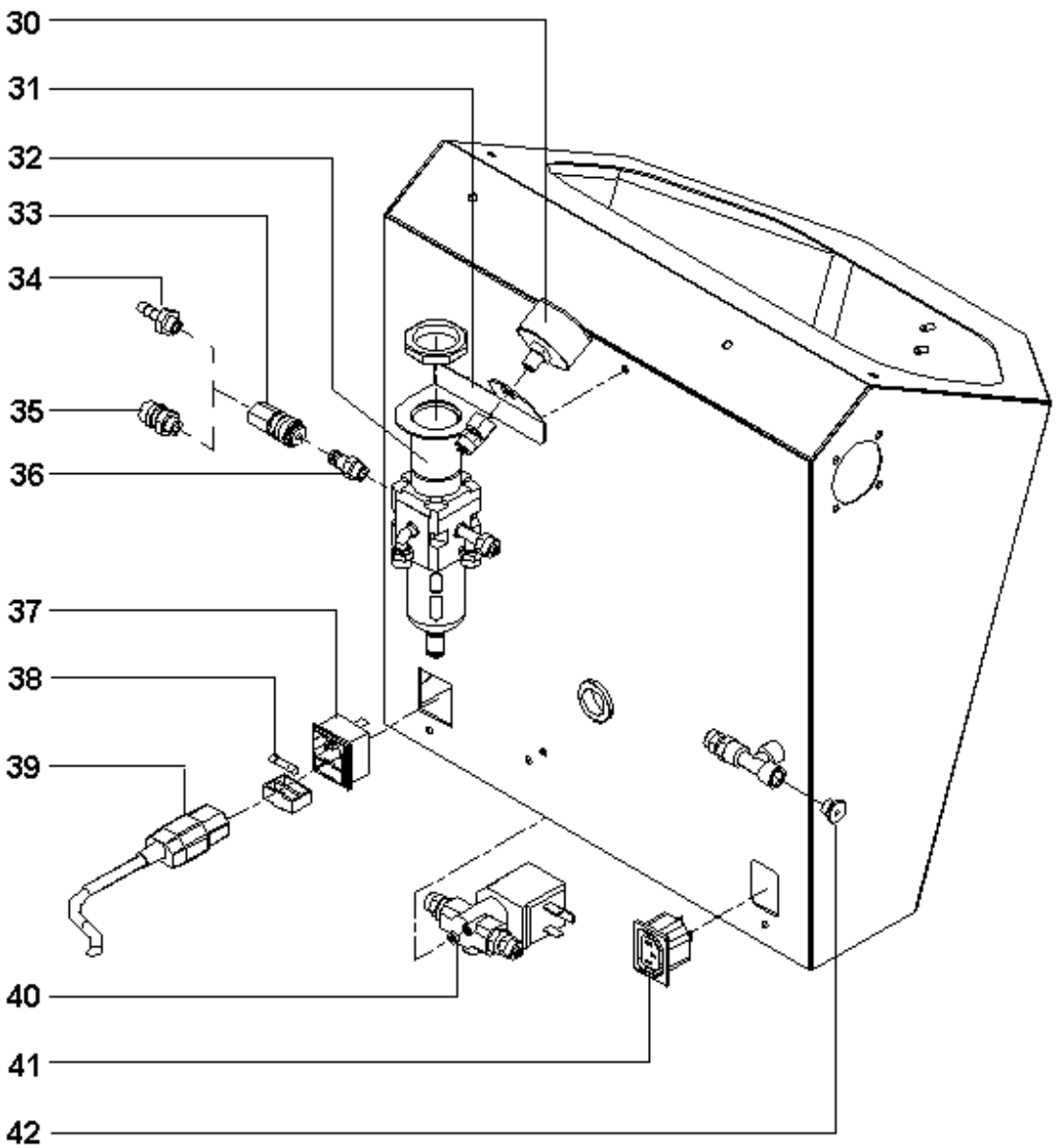
EXPLODED DRAWING AND SPARE PART LIST – BASE – table 2

POS.	CODICE	DESCRIZIONE
30	**NPS040**	PRESSURE GAUGE 0-6 1/8
31	**1072026**	BASE/MICRA REDUCER AND PRESSURE GAUGE HOLDER
32	**NPS029**	FILTER AND REDUCER 1/8
33	**NPR303**	RAPID FEMALE CLUTCH 1/8
34	**NPR220**	PIPE-FITTING 7 1/8
35	**NPR119**	STRAIGHT MALE PIPE-FITTING 8x6 1/8
36	**NPR304**	MALE CLUTCH 1/8
37	**NEA046**	PLUG AND FUSEHOLDER
38	**NEA070**	5x20 RAPID FUSE 3,15 A
39	**NEV013**	ELECTRIC CABLE 3x1 PLUG / SOCKET
40	**NES030**	3-WAY SOLENOID VALVE-220v
41	**NEA047**	FEMALE SOCKET
42	**NPR223**	MALE CAP 1/8
43	**NPR118**	6x4 M10 RING NUT
44	**NPV040**	POLYETHILENE PIPE 6x4
45	**NPOR2025**	OR JOINT 2025
46	**RS019**	PROJECTOR BODY D.=1,5
47	**RS023**	NOZZLE D.=3,0
48	**NVG011**	TRANSPARENT RESIN PIPE 8x12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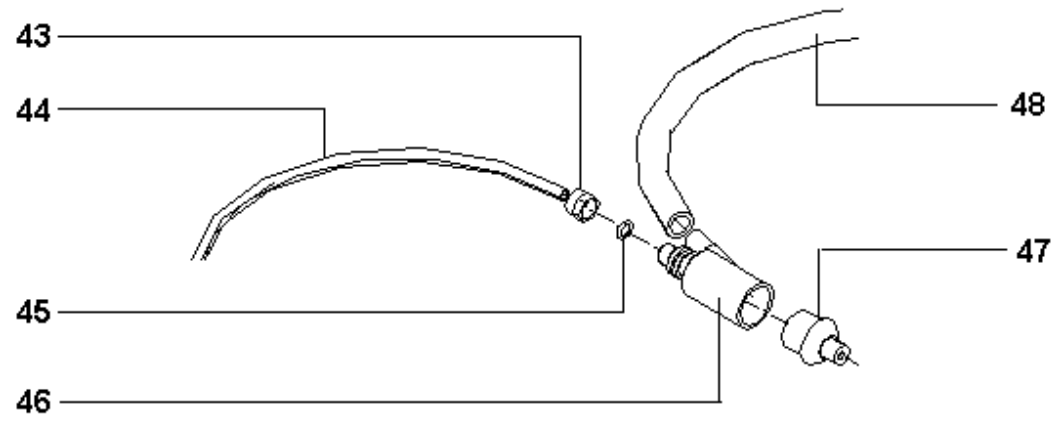
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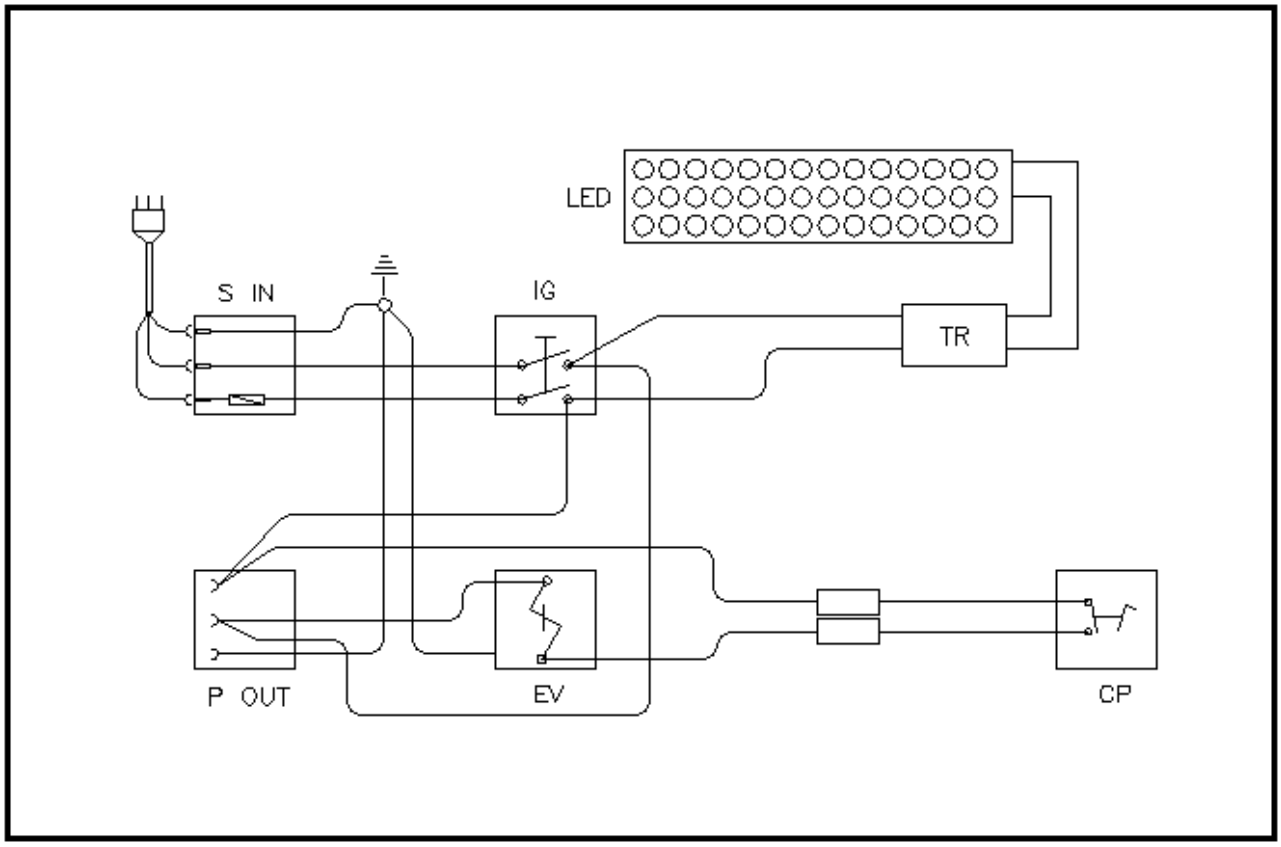
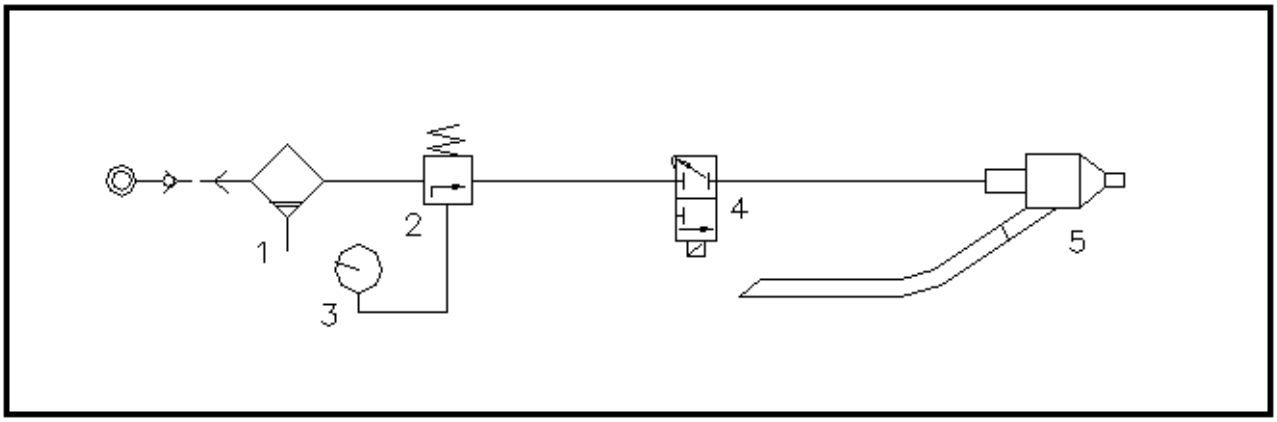
9. WIRING DIAGRAM



NO.	DESCRIPTION
S IN	PLUG AND FUSEHOLDER UNIT
IG	MAIN SWITCH
TR	ELECTRONIC BALLAST
LED	LED CIRCUIT
EV	3-WAY-SOLENOID VALVE
CP	ELECTRIC FOOT CONTROL
P OUT	FLUSH-MOUNTED SOCKET for DUST EXTRACTOR

10. PNEUMATIC CIRCUIT



NO.	DESCRIPTION
1	AIR FILTER
2	PRESSURE REDUCER
3	PRESSURE GAUGE
4	3-WAY-SOLENOID VALVE – MANUAL BLASTING
5	BLASTING PROJECTOR

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