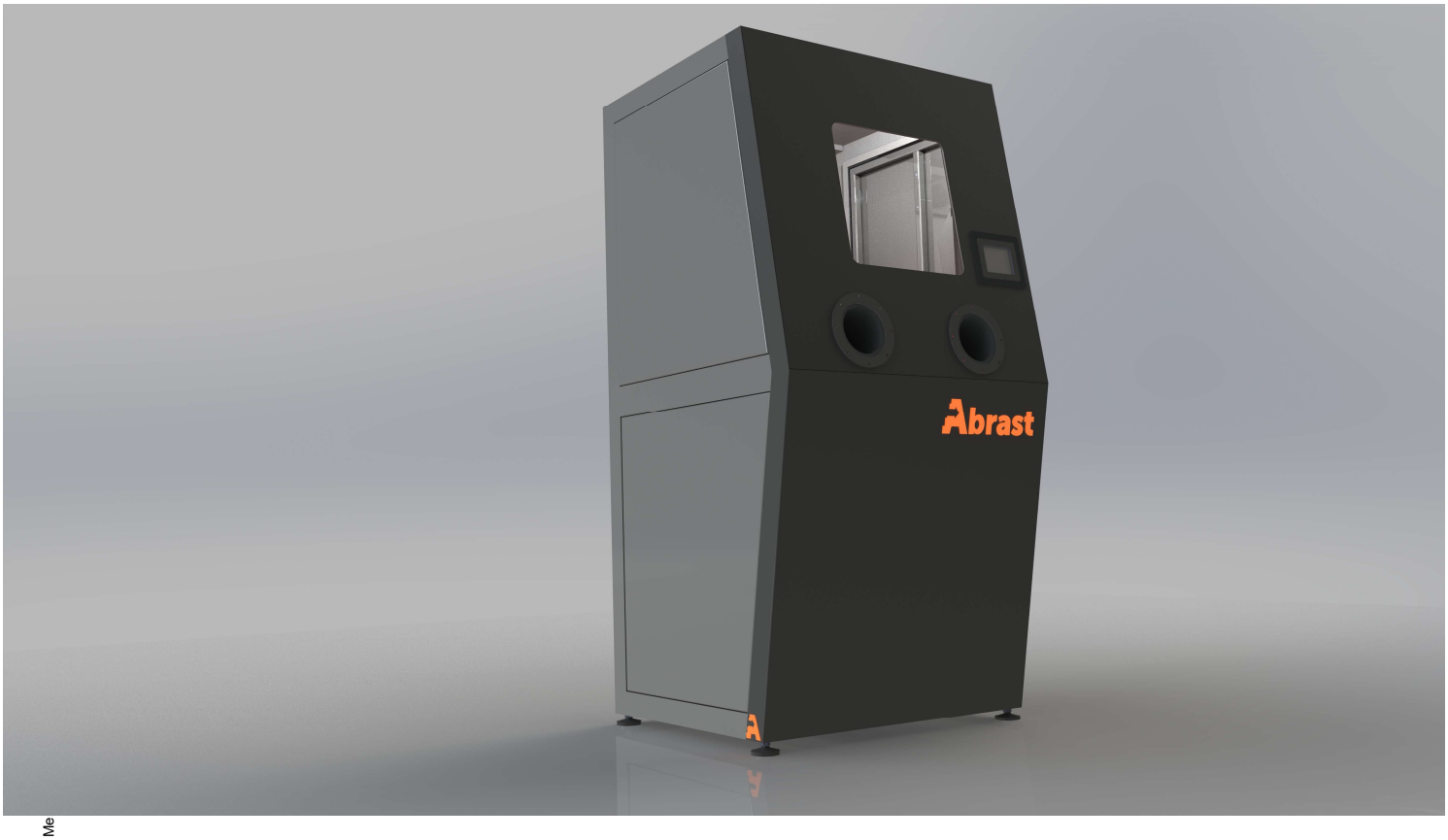
Abrast

AM SURFACE FINISHING

pBLAST brochure

pBLAST

Transforming the AM industry towards high productivity



Automatic cleaning and blasting

Optimized for MJF and SLS

Double suction flow design

Double blasting nozzle

Antistatic system

Reduced abrasive and power consumption

Abrast. CONIEX, S. A. Polígono "Riera de Caldes" C/ La Forja, naves 2-4 Tel. +34 93 864 84 89 08184 Palau-Solità i Plegamans Barcelona (Spain)
e-mail: hello@abrast.com www.abrast.com

equipment description

SANDBLASTING CABIN

The pBLAST sandblaster has been specially designed for the automation, improvement and reduction of costs in processes of surface cleaning and finishing of 3D printed parts. The equipment has been conceived to process batch parts made by powder bed due to its unique characteristics in dust extraction capacity, abrasive separation, particle deionization and process automation. It also allows manual work in a comfortable and effective way for more delicate pieces.

The pBLAST is equipped with a rotating drum where parts are processed quickly and uniformly by automated work cycles and controlled by PLC.

The work cabin is made of electro-welded steel sheet and maintained in depression by means of an aspiration filter that picks up the dust inside the cabin. The particles are separated from the dust in suspension by means of a cyclone and a suction unit of 1200m^3/h in capacity.

The shot blasting media is projected using two high efficiency blasting guns that work by venturi associated with a pressure regulated compressed air flow by means of an automatic servo valve. Thanks to the support system, it is possible to fix the blasting guns in the desired position directing the blasting media towards the working drum.

You can use different types of shot blasting media, both spherical (glass, ceramic, steel) and angular (corundum, carbonate, plastic, metal, silica sand, among others).

The cyclone and the filter for dust treatment are attached to the back of the cabin, in which a filter cartridge and an electronic system for automatic and programmable cleaning have been installed. The motor of the suction turbine has speed regulation to adjust the suction power which allows to reduce the electrical consumption of the equipment when necessary.

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Cleaning drum

The drum cleaning group allows the loading of parts for automatic processing. The circular shape and the rotary movement generate a uniform cleaning and treatment without the need for labor.

The assembly is installed in the door of the cabin and consists of an external motor group that drives a bayonet in which the rotating drum is placed with a quick anchoring mechanism. The drum is covered with an anti-wear 3D fabric that protects the pieces from impacts. The system has a frequency inverter to regulate tumbling speed and the work process is controlled by the PLC.

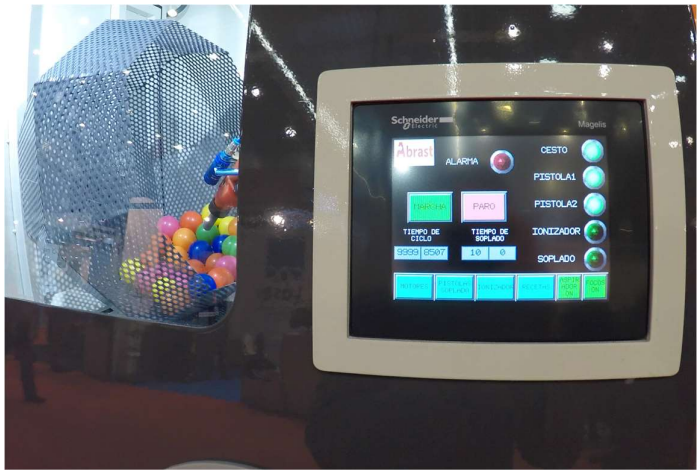
The basket is simply removable without the need for special tools, which quickly allows the possibility of working in manual with the pBLAST equipment.

Control system

The equipment has a PLC and a touch screen control that allows you to configure all the parameters of the equipment and schedule work recipes that ensure the robustness of each process and the repetitiveness of the quality of finish on each type of piece processed

The controlled variables are:

- Blasting pressure
- Processing time
- Ionization time
- Final air blowing time
- Filter suction capacity
- Drum speed



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Standard provision:

- Complete pneumatic installation with automatic pressure regulation, pressure gauge, condensation separator, pneumatic safety micro and stop-gear pedal of the sander.
- Electrical control cabinet. Schneider PLC and 7" touch screen.
- Double shot gun with 8 mm nozzle in tungsten carbide.
- Double recirculation pipe system anti overflow suitable to feed each blasting gun.
- Blow gun with flexible tube
- Latex gloves mounted on clamps.
- Double glass tempered safety window.
- Duct for elimination of dust of variable section.
- Interior LED Lighting.
- Double upper side access door to the cabin
- Double lower side access door to the electrical and pneumatic cabinet
- Perforated plate support plate.
- Built-in filter with cartridge.
- Counter current air pressure cleaning system managed by a programmable electronic control unit.
- Adjustable pistol support arm.
- Integrated motorized drum group.
- Perforated and coated basket (max diameter 300 mm)
- The color of the equipment is white RAL 9002 and gray-black RAL 7021

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technical specifications

Internal dimensions	1000 x 950 x 950 mm
External dimensions	1095 x 1450 x 2100 mm
Weight	280 kg
Pneumatic pressure	6 + 1 bar
Installed power	1,5 kW
Voltage	230 V single phase
Drum motor power	0,25 kW
Motor filter power	1,1 kW
Antistatic power	50 W
Cyclone capacity	1200 m3/h
Air filter capacity	200 - 1200 m3/h
Filter surface	10 m2

COMPRESSED AIR CONSUMPTION BY GUN (Average value between 2 to 6 bar):

- Blasting gun Ø8 / 3,2mm: min. 130 Nl/1' max.650 Nl/1'

regulations

The pBLAST sandblaster complies with the CE regulations and compliance with the following directive: Machine Directive 2006/42 / EC, Pressure Tank Directive (PED) 97/23 / CEE Electromagnetic Compatibility Directive 2004/108 / EC and Low Voltage Directive 2006/95 / EC.

The pBLAST sandblaster, also comply with the following harmonizable standards: UNI 12100: 2005 Technical principle of projection and terminology based on projection methodology, UNI 14121-1: 2007 Safety of Machinery qualified risk, UNI 13849-1: 2008 Safety of the machinery of the control system.

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