CLEAN BLAST



PORTABLE DUST COLLECTOR

Efficient and Eco-Friendly Dust Extraction Solution

This compact and easy-to-install filter unit is engineered for continuous dust extraction during a variety of surface treatment applications, such as blasting. Its quick setup, high mobility, and compatibility with standard transport methods make it ideal for both stationary setups (like blast rooms) and mobile operations (such as tank blasting or building restoration).

Widely adopted in shipyards, marine environments, and oil & gas industry cleaning projects, this unit offers:

Powerful Benefits

- Quick and simple setup
- Hassle-free dust disposal using plastic or big bags
- Easy mobility with forklift slots and lifting lugs
- Transportable using standard-size trucks
- Automatic filter cartridge cleaning, even after operation
- Clear alerts for cartridge replacement

Environmentally Friendly Features

- Keeps worksite surroundings free of dust, abrasives, and pollutants
- Effectively contains contamination within the blasting area for safe and easy removal

FULLY OPERATIONAL WITHIN MINUTES

CLEAN WORKING CONDITIONS: EASY-TO-SET-UP EXTRACTION UNIT

To prevent environmental disruption, blasting areas are often enclosed with scaffolding and tarpaulin covers. Smaller items can be blasted inside containers, for example. It's essential that dust, abrasive materials, and pollutants remain contained within these temporary blasting zones.

Clean Blast's Filter Units create a vacuum and generate sufficient airflow to keep contaminants confined within the designated area, making collection simple and efficient.

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CLEAN WORKING CONDITIONS
EASY SET UP EXTRACTION UNIT

Dust Extractor Units

Execution

The dust collector is a key component in ensuring the efficiency and effectiveness of a blast cleaning plant. Maintaining optimal working conditions within the blast chamber is essential—not only for operator comfort and safety but also for efficient dust extraction and abrasive separation.

The blasting process generates a significant amount of dust due to the removal of scale, rust, and other contaminants from metal surfaces, as well as the breakdown of blasting media. This airborne dust can lead to poor visibility, environmental pollution, and contamination of freshly cleaned surfaces, undermining the entire process.

To manage this, a dust extractor is used to remove airborne particles from the blast room. However, merely extracting the dust is not enough—it must also be safely captured to prevent pollution of the surrounding environment.

Clean Blast's dust collector system effectively addresses these challenges. The filter housing, installed outside the blast room and connected via a properly designed ducting system, traps extracted dust and releases filtered air back into the atmosphere. A centrifugal fan creates slight negative pressure in the blast room, drawing in air through the ducts and filter housing. Inlet air provisions ensure a controlled cross-draft or down-draft airflow, efficiently directing airborne dust toward the filtration system.

The filter unit features two hoppers with butterfly valves and offers multiple dust disposal options, including:

Plastic bags (50 x 80 cm)

Mini big-bags (65 x 65 x 50 cm) placed on wooden pallets

Steel bins for direct collection

An inspection hatch allows easy access to both the clean and dirty air compartments of the filter box. A built-in pre-separator reduces direct dust load on the cartridges, extending their service life. The suction hose is easily mounted using a clamp ring assembly.

The filter unit is coated inside and out in white (RAL 9003), with the ventilator finished in blue (RAL 5005). Alternative color options are available upon request.

For easy handling and installation, the unit includes lifting eyes at all four corners and is forklift-compatible.

Dust Collector

The cartridge-type dust collector is designed to extract dust from the shot blasting and air wash separator systems. Constructed from 2–3 mm thick reinforced plates, it uses high-efficiency non-woven cellulose or polyester cartridges to filter dust-laden air.

The unit is divided into two zones:

Dust-laden (incoming) zone

Clean air (exhaust) zone

Dust-laden air is conveyed through ducts at speeds of 2000–3800 ft/min into the dust collector, where it expands and changes direction. This causes heavier particles to separate and fall into the collection hopper. Finer particles (up to 10 microns) are filtered by the cartridge media, which quickly forms a filtering "cake" layer that improves filtration.

As this layer thickens, airflow resistance increases, reducing efficiency. To maintain performance, a reverse pulse jet system periodically sends strong air blasts (6 kg/cm²) through the filters to dislodge the dust. The loosened dust falls into the hopper, and filters are cleaned in a rotating cycle. A water manometer monitors pressure across the filters.

The ventilator features a regulator valve to adjust airflow capacity, is mounted on vibration dampers, and includes a flexible connection at the inlet. For transport, locking mechanisms secure the ventilator. In the standard setup, the air outlet is positioned to the side.



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Technical Specification

Sr.	Description	CB-DC-12000	CB-DC-20000
1.	Type	√ Portable	√ Portable
2.	Type	√ Cartridges	√ Cartridges
3.	Cleaning Arrangement	√ Reverse Pulse Jet	√ Reverse Pulse Jet
4.	Motor Starter	√ Provided	√ Provided
5.	Installation	√ Indoor	√ Indoor
6.	Differential Pressure Gauge	√ Provided	√ Provided
8.	Capacity	12000 m^3/hr	20000 m^3/hr
9.	Static Pressure	3000 Pa	3300 Pa
10.	No. of Cartridges	12 Nos.	20 Nos
11.	Filtering Area	192 m^2	320 m^2
12.	Air to cloth ratio	1.04 m^3/m^2/min.	1.04 m^3/m^2/min
13.	Construction	2mm / 3mm thick, MS Powder Coated	2mm / 3mm thick, MS Powder Coated
14.	Paint	RAL 5015	RAL 5015
17.	Maximum exhaust dust	10 mg. /Nm^3	10 mg. /Nm^3
18.	**Blower Capacity**	**12000 m^3/hr**	**20000 m^3/hr**
19.	**Blower motor (Kw)**	**18.75 kW**	**30 kW**
20.	Blower motor (rpm)	1440 / 2880	1440 / 2880
21.	**Total Kw for dust collector**	**18.75 kW**	**30 kW**
22.	Material for Filters	High Efficiency Cartridge Filter , Polyester PTFE Coated	High Efficiency Cartridge Filter Polyester PTFE Coated
23.	Cartridge Cleaning	Each Cartridge is Auto Cleaned with Reverse Pulse Jetting	Each Cartridge is Auto Cleaned with Reverse Pulse Jetting
24.	Pulsing Valves (Auto Pulsing)	6 Nos.	10 Nos
25.	Voltage	400V/50 Hz	400V/50 Hz
26.	Lifting Hooks	Provided	Provided
27.	IP Rating	IP 50	IP 50
28.	Skid Mounted System	Yes	Yes
29.	Silencer	On Optional Request only at extra cost	On Optional Request only at extra cost
30	Hose	Not Included – Optional Extra	Not Included - Optional Extra

Automatic Filter Cartridges Cleaning

The filter cartridges are cleaned automatically during use. This continuous cleaning results in a problem free and constant capacity of the unit. The cartridges are cleaned one by one by a very short compressed reverse pulse jet air shot. The shot vibrates the filter material by which the dust is released from the filter media.
The pause and pulse times are adjustable and are controlled by the switchbox. A pressure differential gauge compares the pressure at the clean and dirty side of the cartridges. This gives a clear indication of the condition so the cartridges can be replaced on time.





Control Box

The control box for the cleaning cycle of the filter cartridges is also built in the switchbox.



Connections

The compressed air connection comes with a quick coupling and requires clean and dry compressed air at a minimum pressure of 6 bar. The diameter and number of the connections for the suction hose, depend on the use of the filter in a stationary or mobile setup. Customer has to confirm the same before ordering.



CLEAN BLAST INTERNATIONAL (L.L.C)

P.O.Box: 93716, Dubai Investment Park 2 Dubai - U.A.E
+971 4 884 7344 +971 4 884 7355
sales@cleanblast.com www.cleanblast.com

ABU DHABI | QATAR | KUWAIT | SAUDI ARABIA | INDIA | MALAYSIA

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