

Dustcontrol®



The Dustcontrol guide  
to cleaner construction

## Dustcontrol worldwide.

In 1972, Swedish company Dustcontrol AB began the production of a range of specialist dust extraction vacuums designed to capture dust at source and thereby protect construction workers from the health risks associated with dust. Since then Dustcontrol AB has developed an innovative range of high-quality dust extraction systems that have earned a worldwide reputation for reliability, ruggedness and simple effectiveness.

As well as addressing the health and safety issues associated with dust, and in particular the risk of Silicosis, Dustcontrol extraction systems greatly improve on-site productivity by creating cleaner, safer and more profitable working conditions for every trade on every site.

Since 1966 Dustcontrol UK Ltd have been providing the UK hire industry with a wide range of specialist dust extraction vacuums, air cleaners and extraction guards for virtually every construction application imaginable and are now the preferred supplier for hire companies throughout the UK.

We don't just supply tough, hard working tools and equipment from our comprehensively stocked UK offices. When you buy from Dustcontrol UK you'll receive the very best in technical advice, training and customer support.

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## Maintain your health.

Work related exposure to any sort of dust can never be good for your health, however exposure to some dusts can cause serious health problems including dermatitis, asthma, Chronic Obstructive Pulmonary Disease (COPD) and silicosis. Working in the construction industry regardless of your trade, means your risk of being exposed to dust containing a mineral called silica is increased and with it the potential of developing a disabling respiratory disease.

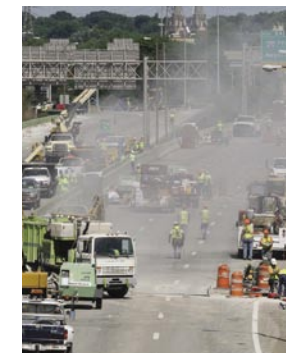
### SUBSTANCE

### % SILICA CONTENT

Brick	Up to 30
Concrete, cement, mortar	25 to 70
Tile	30 to 45
Sandstone, gritstone, quartz	More than 70
Granite	Up to 30
Sand, gravel, flint	More than 70
Slate	Up to 40
Flint	More than 80

## What is Silica?

Silica is one of the most abundant minerals on earth and found naturally in masonry, stone, sand and aggregates. It's also used in the manufacturing of a huge range of building materials including bricks, blocks, mortar, roof tiles and concrete products. Materials containing silica are perfectly safe, but when the materials containing silica are subjected to everyday site activities such as cutting, drilling, grinding and sanding, very fine dust particles can be released into the air.



Dust can affect more than just the person creating it



Silica is used in many construction products & materials

[www.dustcontrol.co.uk](http://www.dustcontrol.co.uk)

## RCS – Respirable Crystalline Silica.

These fine silica dust particles known as Respirable Crystalline Silica or RCS are so small they cannot be seen with the naked eye and can remain suspended in the air for hours after being created. Wind and air movement can also spread this invisible hazard around a construction site affecting not just the person who created the hazard but also those working around them and even people living and working nearby.

These RCS particles are extremely hazardous and extensive or prolonged exposure to them is known to cause a debilitating lung disease called silicosis, CPOD including chronic bronchitis and emphysema.

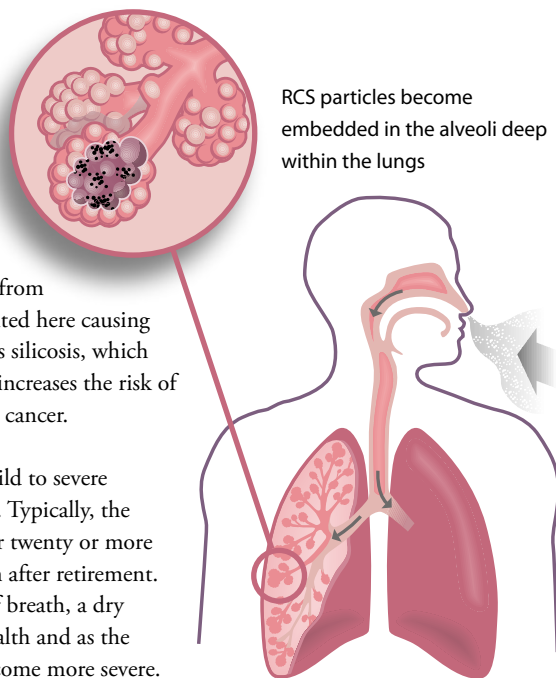


The dust you cannot see is the most dangerous

## What is Silicosis?

When you breathe in air containing dust, the hairs and mucus in your nose and throat trap the large dust particles but the fine RCS particles are ‘respirable’ meaning they are carried deep into the lungs where oxygen is extracted from the air. The RCS particles are deposited here causing inflammation and scarring known as silicosis, which makes breathing more difficult and increases the risk of developing lung infections and lung cancer.

Silicosis can vary in severity from mild to severe depending on the levels of exposure. Typically, the symptoms do not develop until after twenty or more years of constant exposure and often after retirement. The early symptoms are shortness of breath, a dry cough and a general feeling of ill health and as the disease progresses the symptoms become more severe.



RCS particles become embedded in the alveoli deep within the lungs

\* There is no effective treatment for silicosis.

## Your legal responsibilities.

Because RCS carries a health risk it has been classified as a hazardous substance under the Control of Substances Hazardous to Health Regulations (COSHH) 2002. These regulations place obligations on employers to carry out a sequence of measures which are fully explained in their leaflet “COSHH: A brief guide to the Regulations” What you need to know about the Control of Substances Hazardous to Health Regulations 2002 (COSHH).

## The COSHH regulations requires employers to:

- Assess the risks to health and decide what controls are needed;
- Use those controls and make sure workers use them;
- Make sure the controls are working properly;
- Inform workers about the risks to their health;
- Train workers.

These regulations are all about controlling exposure so personal protective equipment (PPE) should only be supplied and used where risks to health and safety cannot be adequately controlled in other ways.

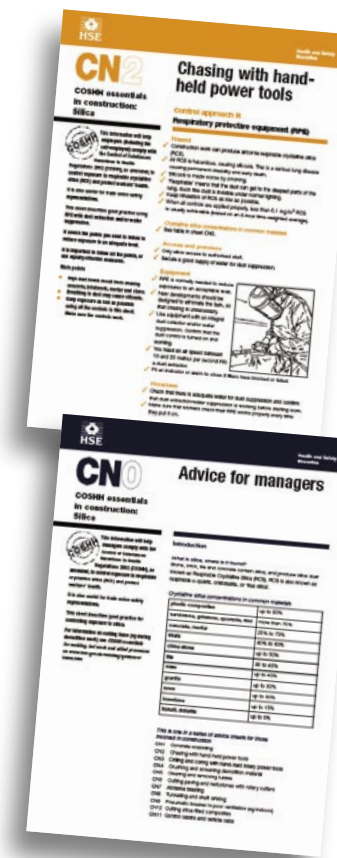
The COSHH Regulations also specify the maximum level of RCS that you can be exposed to during a working period and is known as a ‘Working Exposure Level’ or WEL. The current WEL is set at 0.1 mg/m<sup>3</sup>

This is an almost impossible amount to imagine but one mg is equivalent to one cubic millimeter of water and just 0.1mg is absolute maximum weight of RCS for every cubic metre of air that you can be exposed to in a 8-hour work period (WEL)

\* REMEMBER: Follow the COSHH Regulations



An amount of RCS dust smaller than a match head inhaled over a full shift can put your health at significant risk



## Controlling the risk makes good business sense too.

There are many tasks on construction and work sites that can potentially create hazardous RCS dust and employers have a legal obligation to assess, avoid or minimise these risks under the COSHH regulations. By meeting these obligations you not only protect the health of everyone on the site but also make a job, or site, more productive.

## A cleaner site improves productivity & worker co-operation.

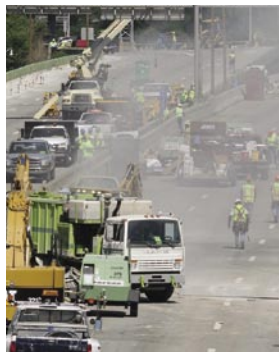
There are no benefits to any tradesman having to start work by cleaning up someone else's dust before they can start their own job. Equally, clouds of dust from someone else's work can make a job difficult or even unsafe due to restricted vision and is extremely unproductive.



## A cleaner site gives greater customer satisfaction.

Hospitals, offices, schools and retail areas are all sensitive environments where fine dust can create damage to IT equipment, machinery, stock and people. Once fine dust has been created it's difficult to remove completely and can be costly for both you and your customer.

- \* Professionalism is taking pride in a clean site, improving productivity and worker co-operation while safeguarding the health of everyone.



Cleaning up dust is time-consuming and expensive.

Good dust control measures make good sense by avoiding the creation of dust in the first place, thereby reducing cleaning-up time and expense.

## Greater tool and equipment life

Using the correct dust control equipment in conjunction with your power tools can keep them working longer and more effectively meaning less downtime and increased productivity.

## How to minimise and control dust.

If your task creates hazardous dust you will need to carry out a risk assessment and find the most effective way of removing or minimising the risk.

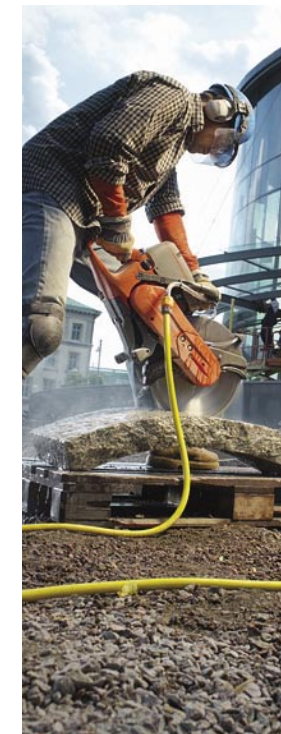
Water suppression on petrol cut-off saws is a simple way of controlling dust on outdoor work, either by using a pressurised water container or by a hose connected to mains water supply or bowser. A minimum flow rate of about 0.5litre per minute is required to optimise dust suppression and this method is particularly useful for civil engineering and highway work.

Water suppression creates a dust slurry, which may be a potential slip hazard, so its good practice to collect and remove the slurry using a Dustcontrol professional wet pick-up vacuum.

However water suppression is often unsuitable for work inside buildings and more importantly, it's not compatible with most electric power tools.

In these situations the use of a specialist dust extraction vacuum and source extraction can create a safe, clean and more productive working environment. Source extraction means capturing the dust as close to the point it is created by using a specialist vacuum cleaner and a hose connected to a purpose built guard attached to the power tool. With the right vacuum and guard it is an extremely effective way of removing dust and collecting it safely for disposal. Most ordinary site vacuums just don't have the technical elements required to safeguard your health and will in fact leave the most dangerous small particles of RCS in the air you breathe.

- \* It's important to note that ordinary construction vacuums may not have the important design features found in Dustcontrol extraction vacuums and therefore may not be suitable for dust extraction.



A water flow rate of 0.5 litres per minute optimises dust suppression

## What makes Dustcontrol vacuums different?

### Capturing the dust at source – extraction guards

Whatever power tool you are using it's vital that you have the correct suction casing to ensure the effective collection of harmful dust. The Dustcontrol range of lightweight suction casings is designed so as not to restrict the use of the power tool and includes casings to fit mini-grinders, grinders, sanders, drills, demolition hammers and breakers. There are even connectors that allow two power tools to be connected to the same vacuum at the same time for efficient working

Many larger tools such as floor grinders and surface preparation machines are designed with dust guards and spigots for connecting to a dust extraction vacuum and Dustcontrol manufacture a wide range of spigots and adaptors to ensure you have a method of connecting almost every machine.



Drills and breakers can be coupled to dust extraction



Extraction guards are available for over 300 power tools



Surface preparation tools are often designed with inbuilt source extraction guards

Extracting dust at its source

## Dustcontrol-Triple stage filtration.

Perhaps the most important element of any Dustcontrol dust extraction vacuum is its three-stage filtration system and it's a key feature that sets it apart from other machines.

### Stage 1 – Cyclonic filtration

As the airborne dust is carried at high velocity into the body of the vacuum the powerful motor 'spins' the air and centrifugal force ensures the heaviest coarse particles of debris are thrown out to the sides of the cyclone body where they fall into the collection bag below. This design gives long lasting performance.

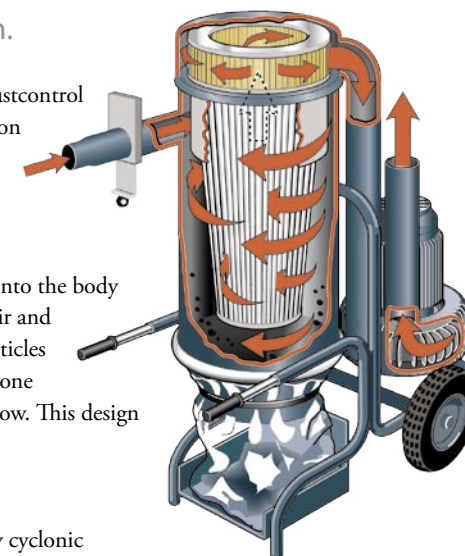
### Stage 2 – Main Filter

Once the heavy particles have been removed by cyclonic filtration, the air is drawn through a conical pleated filter that removes over 99% of the remaining dust particles. A pleated filter has a very large area in relation to its physical size allowing the extraction units to be compact in relation to the filter area they contain.

### Stage 3 – HEPA Filtration

The HEPA filter is the final stage in the Dustcontrol filtration sequence and it's this part of the process that removes the smallest particles that can be the most dangerous to your health. Under EN-1822-1 HEPA filters are classified according to their efficiency with different levels ranging from H10 to H14.

Dustcontrol uses H13 grade, which can separate up to 99.995% of the particles of between 0.15 and 0.30 µm (micron) in size, which are the hardest particles of all to capture. Dust extraction vacuums are also tested according to IEC.60335-2-69 and classified into one of three categories - L for Low, M for Medium and H for High. All Dustcontrol extraction vacuums meet the highest machine class 'H' standard for hazardous dusts due to their design and the 99.995% Hepa 13 filtration efficiency. (Units for use with asbestos require further approvals).



HEPA 13 filters are used throughout the entire Dustcontrol range



### Comparing notes:

- A strand of human hair is approximately 100 µm in diameter
- Particles smaller than 10 µm are invisible to the naked eye
- A particle of tobacco smoke is on average between 0.01 to 10.0 µm
- Most bacteria are between 0.35 to 10.00 µm

### Pulse cleaning.

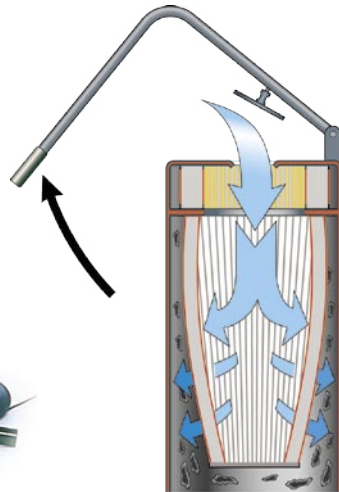
Inevitably after heavy use the main filter on a Dustcontrol dust extraction vacuum will become partially blocked, especially when large volumes of fine concrete dust are being collected. With Dustcontrol dust extraction vacuums a warning light tells you when this has happened and prompts the operator to carry out a simple process known as pulse cleaning, without switching off the machine. Pulse cleaning is done by blocking the inlet, then opening and closing a flap-valve, which reverses the flow of air through the main filter dislodging the particles of dust. This is quickly done with very little working time lost.

### Dust-free bag exchange.

Dustcontrol extraction vacuums have a dust-free bag exchange system that means the dust-collecting bag can be replaced simply without exposing the operator to harmful dust particles and then safely disposed of.



Dust free bag replacement



Reverse pulse filter clean

### Dustcontrol extraction vacuums.

#### Choosing the right tool for the job

#### DC 1800

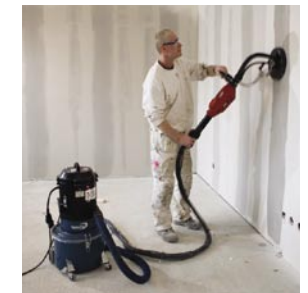
The DC 1800 is the ideal vacuum for general cleaning work and source extraction from handheld power tools including mini-grinders (with up to 125mm suction casings), jigsaws and small drills. Being extremely portable the DC 1800 is the perfect vacuum for repair and light refurbishment work in offices, shops and buildings where space is at a premium and minimal dust, noise and disruption are vital.

#### TECHNICAL DATA – DC 1800

Weight	10 kg
Flow at open inlet, max	190 m <sup>3</sup> /h
Neg pressure	115/230V 21/24 kPa
Power consumption	115/230V 1200/1400W
Noise level	68 dB(A)



Three point dust extraction



#### DC 1800

A highly portable machine powerful enough for dust extraction

## Dustcontrol extraction vacuums.

### Choosing the right tool for the job

#### DC 2800C

A wide range of tradesmen engaged in refurbishment, M & E and general construction activity find the DC 2800c the perfect source extraction vacuum for use with a broad range of handheld power tools including dry diamond core drills, mini-grinders, circular saws and sanders. Weighing just 14kg, it's extremely portable and easy to manoeuvre making it equally useful as a general purpose cleaning vacuum.



#### TECHNICAL DATA – DC 2800c

Weight	14 kg
Flow at open inlet	190 m <sup>3</sup> /h
Neg pressure	115/230V 21/24 kPa
Power consumption	115/230V 1200/1400W
Noise level	68 dB(A)



#### DC 3800c

A combination of two powerful motors, high cyclone capacity and large filters makes the DC 3800c range ideal for source extraction jobs where large volumes of dust are created. Whether you are sawing, drilling, grinding or breaking, the extensive range of source extraction guards and bellows available means the DC 3800c can be used in conjunction with wall-chasers, surface preparation equipment, saws, drills and breakers for highly productive, dust-free working.

#### DC 3800c Twin – With integrated pre-separator

Floor grinders and surface scabblers can create exceptionally high volumes of fine dust and coarse debris that can quickly overload most extraction vacuums. The DC 3800c Twin overcomes this problem, giving highly productive source extraction by separating and removing 80 – 90% of the coarse particles of dust into the first cyclone or, pre-separator. The remaining dust is then removed by the second cyclone containing the main and HEPA filters. The airflow capacity of this machine is powerful enough for most concrete floor grinding machines with a grinding head diameter of up to 800mm, yet it can still be easily moved and transported.



#### TECHNICAL DATA – DC 3800c

Weight	35 kg
Flow at open inlet	320 m <sup>3</sup> /h
Neg pressure, maximum	115/230V 21/24 kPa
Power consumption	115/230V 2300/2800W
Noise level	115/230V 75/70 dB(A)

#### TECHNICAL DATA – DC 3800c Twin – With integrated pre-separator

Weight	54 kg
Flow at open inlet	320 m <sup>3</sup> /h
Neg pressure, maximum	115/230V 21/24 kPa
Power consumption	115/230V 2300/2800W
Noise level	115/230V 75/70 dB(A)



## DC 5800c

On large or long-term construction sites there may be a demand for dust extraction in separate areas or on different floor levels, all at different times. To avoid having multiple machines on site or, to be constantly shifting one machine around, the installation of a centrally located DC 5800c and a temporary ducting system can provide powerful, ducted airflow for up to four multiple users, depending on their applications.

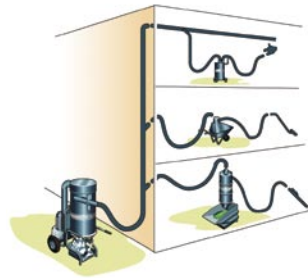
### TECHNICAL DATA – DC 5800c

H x W x L (mm)	1920 x 760 x 1150
Weight	170 to 210 kg
Flow at open inlet	470 to 800 m <sup>3</sup> /h
Negative pressure, max	28 kPa
Motors	from 5 to 9,2 kW
Noise level	75 dB(A)

The DC 5800c can also be used for source extraction in tough work environments where high volumes of dust are generated, such as floor grinding. The use of in-line pre-separators to remove the bulk of the dust ensures the performance of the filtration system is maximised and high productivity is maintained.

Pre-separators can also play an important role where the collected materials are required for re-use. A typical example was an historic building restoration project where, old lime mortar was mechanically removed from joints in walls using

grinders with source extraction guards. The old mortar was recovered in a Dustcontrol pre-separator, recycled and re-used in the new mortar ensuring the integrity and colour of the re-pointing was maintained and provided an environmentally sustainable solution.



Temporary centralised extraction system

### Additions

Tools with source extraction can be simply and quickly connected into the suction network, with higher levels of productivity ensuring an entire project can become a dust free working environment.

### Cyclone separator top

When really large amounts of dust are produced, a DC 5800 can be complemented with a cyclone separator top mounted directly onto a 200 litre standard barrel. Other pre-separators are also available to meet your disposal needs.



[www.dustcontrol.co.uk](http://www.dustcontrol.co.uk)

## DC AirCube

On any construction or refurbishment project there will inevitably be airborne dust created by people, materials and processes that cannot be controlled by source extraction. This dust can be particularly problematic in sensitive areas like hospitals, schools, offices and retail areas where the minimisation of dust is essential.

The DC AirCube air cleaner can be extremely effective in these applications and works by circulating the air in a room, or, enclosed work area, through a highly efficient HEPA filter, cleaning the air and removing the hazardous airborne dust.

By installing a DC AirCube within an sealed work area and ducting the AirCube's exhaust through the screening, a negative pressure can be created within the work area to further enhance their effectiveness in controlling airborne dust.



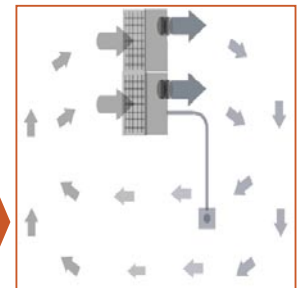
✳ By circulating the air through a highly efficient HEPA filter, the air in the room is cleaned from airborne dust.

### DC AirCube

Weight	13 kg
Flow at open outlet	400 m <sup>3</sup> /h
Neg pressure, maximum	400 Pa
Power consumption	230V, 170W/ 115V, 190W
Noise level	48 dB(A) spd 1 67 dB(A) spd 2



AirCube pictured in print press factory



[www.dustcontrol.co.uk](http://www.dustcontrol.co.uk)



Useful information and contacts:

[www.hse.gov.uk](http://www.hse.gov.uk)  
[www.coshh-essentials.org.uk](http://www.coshh-essentials.org.uk)  
[www.opsi.gov.uk/stat.htm](http://www.opsi.gov.uk/stat.htm)  
[www.dustcontrol.co.uk](http://www.dustcontrol.co.uk)

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