

# ATEX

Potentially explosive dust

Dustcontrol  
dustcontrol.com

**DANGER**  
YOU ARE STANDING IN THE VENTING AREA OF  
A PRESSURE RELIEF DEVICE. YOU ARE IN A  
ZONE OF POTENTIAL DANGER. YOU MAY BE  
HARMED BY ESCAPING PRESSURE, NOISE,  
CHEMICALS AND / OR FRAGMENTED  
PARTICLES.

**Ex**

Dustcontrol



# ATEX

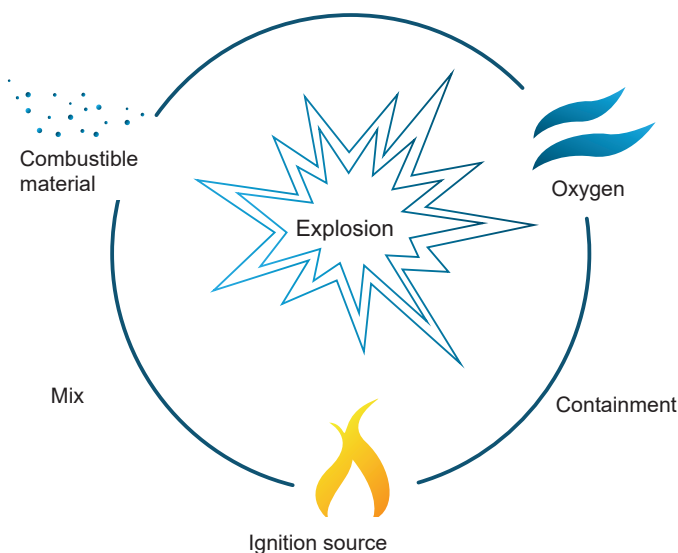
ATEX derives from the French “Atmosphères Explosibles” and refers to atmospheres that are potentially explosive. EU Directive 1999/92/EU covers the health and safety of workers in such environments.

All equipment marketed in the EU for use in explosive atmospheres with “inherent ignition sources” must fulfil the requirements of directive 2014/34/EU.

Dust explosions occur when combustible dust is mixed with air or oxygen and is ignited in an enclosed space. For this to happen, the dust must occur in sufficiently large concentrations. Almost all substances that arise as a result of, or that are used during industrial manufacturing, are combustible and can cause explosions under certain conditions. Examples of such substances include coal, flour, cereals, wood, cotton and certain plastics. Aluminium and magnesium dusts are also particularly liable to explode.

Hazardous dust deposits should be avoided through regular cleaning of any premises used for work or operations. Using a stationary central extraction system from Dustcontrol, you can extract dust, fumes, chips, oil spillages and other harmful substances, right at their source. The result is efficient production where the risk of a dust explosion is reduced to a minimum.

Our mobile EX-line range features light, flexible equipment suitable for general cleaning in locations where highly portable or movable units are required.



## Conditions necessary for a dust explosion to occur

Five conditions must be fulfilled for a dust explosion to occur.

- There must be a sufficiently large dust content.
- The dust must be mixed with gas (ex. air) which has a sufficiently high oxygen concentration to maintain combustion.
- The mixture must be ignited by a sufficiently energy-rich energy source.
- Sufficiently combustible material (correct stoichiometric ratio).
- Everything must be enclosed.

# Risk assessment

The consequences of a dust explosion can be devastating and the risk of a dust explosion must be taken very seriously. In the directive 1999/92EU, the employer is ultimately responsible for ensuring that the production facility is built safely, that the staff is trained and must, in accordance with the mandatory regulations, have drawn up a so-called explosion protection document. It shall contain risk analyzes, classification plans, a list of flammable liquids, gases and dust as well as routines for safe handling in the event of an explosive atmosphere.



Depending on the frequency and duration of an explosive atmosphere, the risk area is divided into zones.

## **Zone 20**

An area in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.

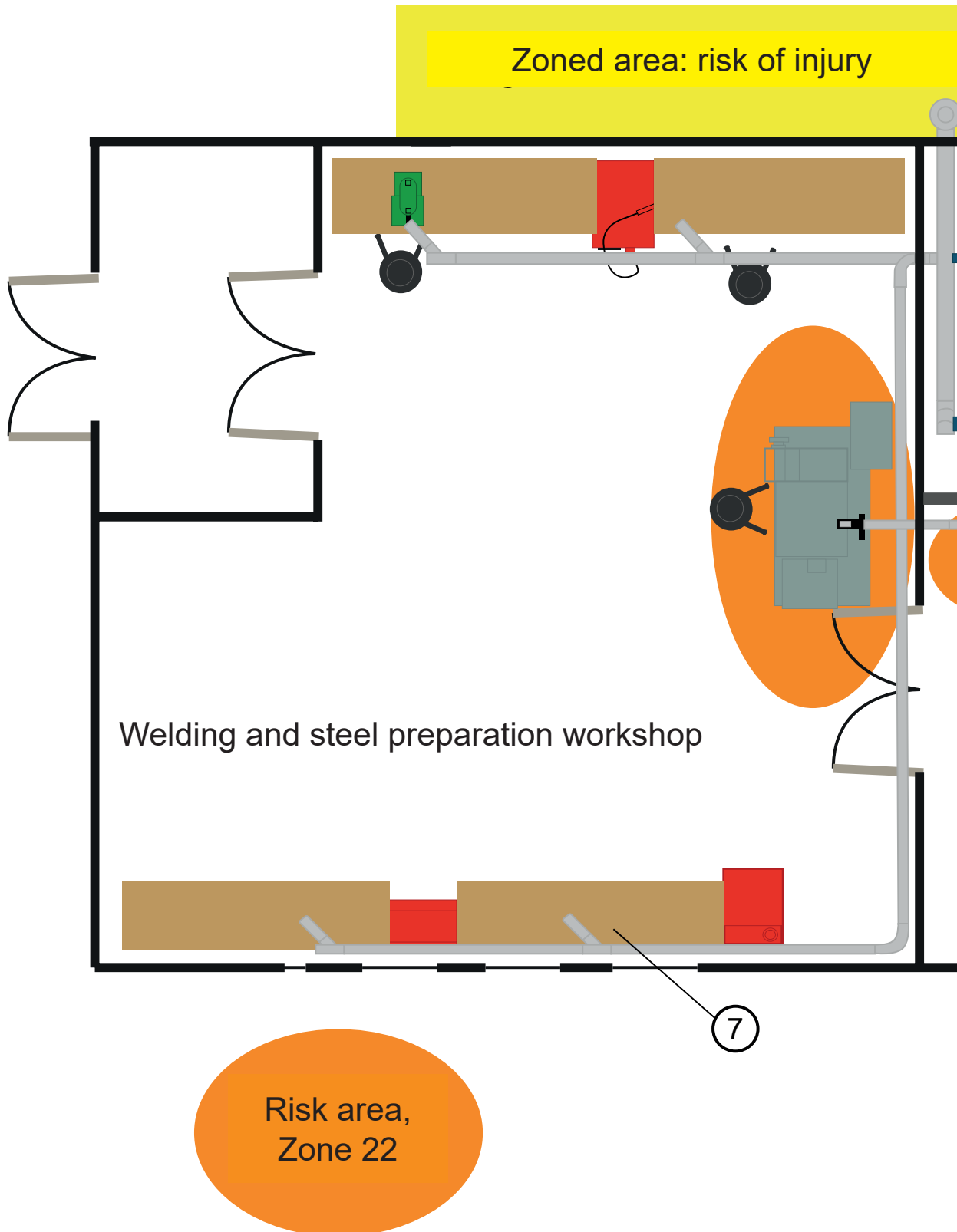
## **Zone 21**

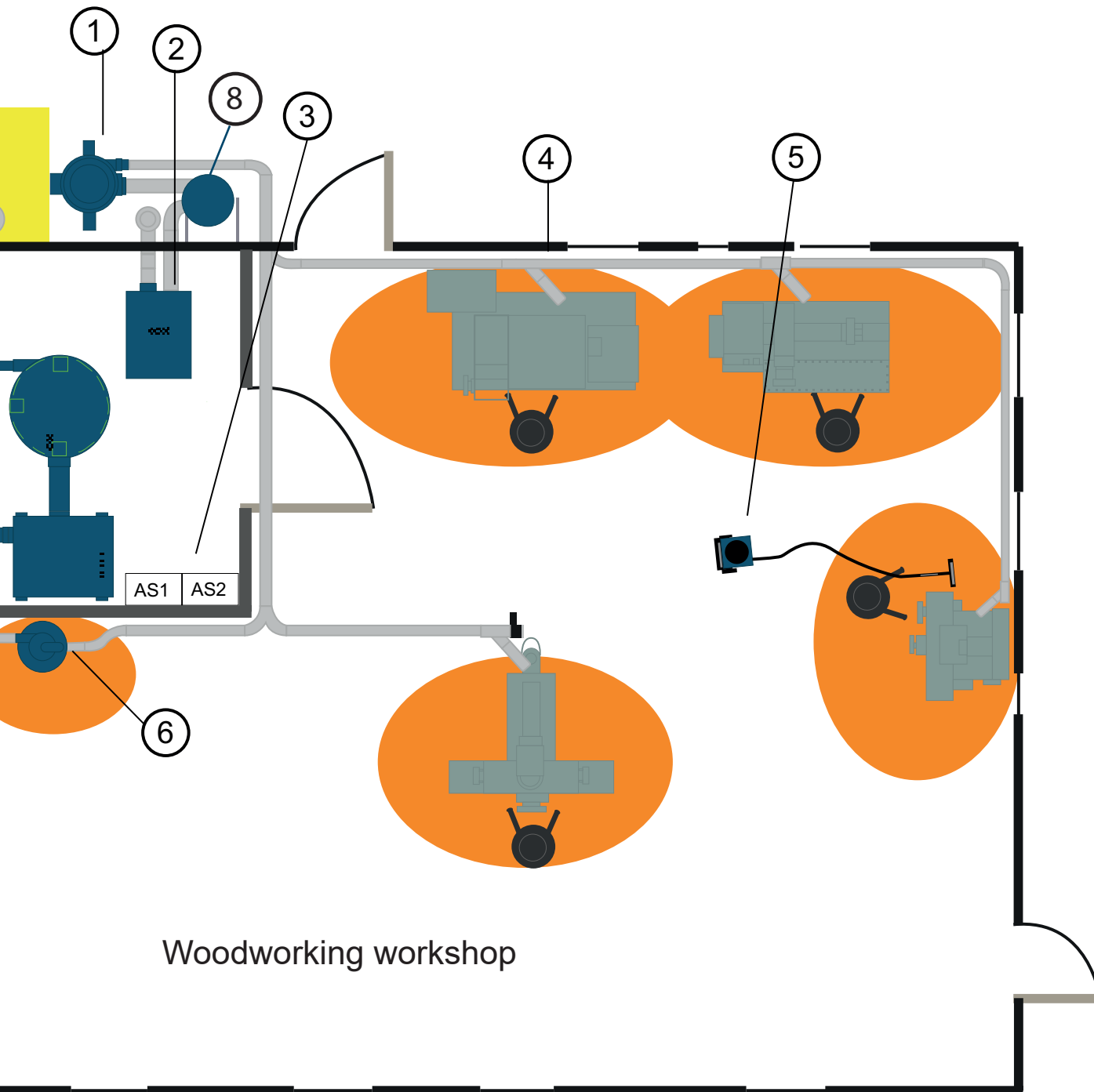
An area in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.

## **Zone 22**

An area in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

# Example of an ATEX installation





1. S 21000 filter unit reinforced to 0.6 bar with a FIKÉ DN400 explosion vent panel.
2. TRP 47, Turbopump.
3. Electrical cabinet.
4. Tubing system connected to wood processing machinery.
5. DC 2800 EX.
6. DCF 3500 Pre-Separator.
7. Welding fumes system.
8. HEPA Box

# Stationary modules

## Design

The ATEX directive and harmonised standards provide excellent guidance on the chain of documentation, calculations, design, user instructions, validations and certificates that ensure protection against dust explosions. This protection is provided in two stages: firstly, the prevention of sources of ignition, and secondly an explosion panel that releases the combustion pressure if ignition should occur anyway.

## Vacuum accessories

By earthing and equalising the potential of all elements of the system, and by only using ESD-certified vacuum accessories, the charging and discharging of static electricity is avoided, thus eliminating one potential source of ignition.

## Filter units

Our filter units for ATEX are earthed and the filters are treated to conduct charges. They have pressure relief flaps that release any combustible gases without the pressure in the filter unit reaching hazardous levels. The filter unit is reinforced with drawbars and

heavy-duty fittings to withstand the design pressure. In the event of ignition, the flap will open and a puff of flame and smoke will be ejected. This is why a protection zone should be set out around the flap in accordance with the specifications for the case in question.

S 11000 / S 21000 / S 34000 EX represent the new generation of vacuum dust collectors for dust that is potentially combustible. The units comply with the requirements set out in the ATEX directive.

S 11000 / S 21000 / S 34000 EX have been developed to meet various extraction requirements and to meet the challenges and rapid changes presented to modern industry. The systems are all marked with the EX symbol and are category 3D equipment according to Directive 2014/34/EU. This means that models with the EX symbol may be positioned in areas classified as zone 22 according to Directive 1999/92/EC.

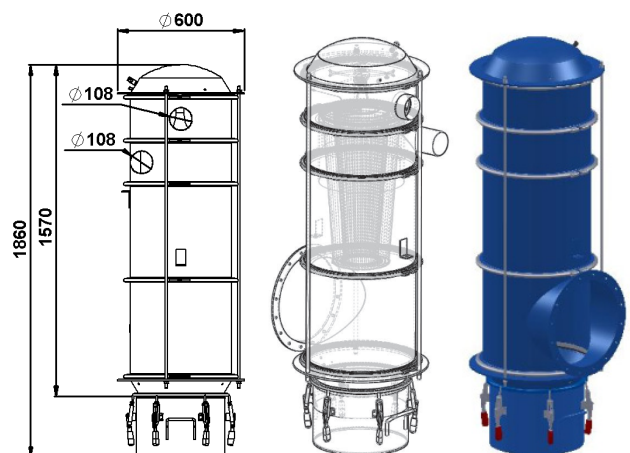
Since 1 July 2006, all new and existing installations must fully comply with the ATEX directive.

## S 11000<sup>EX</sup>



### Technical data

Inlet mm	Ø 108
Outlet mm	Ø 108
Max Q	1000 m <sup>3</sup> /hour
Antistatic filter	8.4 m <sup>2</sup>
Vent	Ø 400
Q-pipe	optional
Kst	<= 200 bar/m/s
Compressed air	4 L/s, 4 bar
Connection, hose	6/8 mm
Electrical connection	24 V DC, 12 W
Container	35 L
Filter cleaning using reverse pulse	
Volume of air on contaminated side	160 L



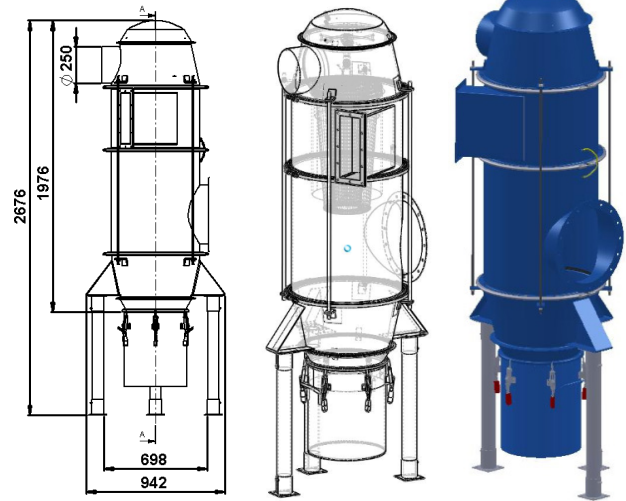
Part No.  
110301

# S 21000<sup>EX</sup>



## Technical data

Inlet mm	Ø optional
Outlet mm	Ø 250
Max Q	1500 m <sup>3</sup> /hour
Antistatic filter	12 m <sup>2</sup>
Vent	Ø 400
Q-pipe	optional
Kst	<= 200 bar/m/s
Compressed air	4 L/s, 4 bar
Connection, hose	6/8 mm
Electrical connection	24 V DC, 12 W
Container	60 L
Filter cleaning using reverse pulse	
Volume of air on contaminated side	270 L



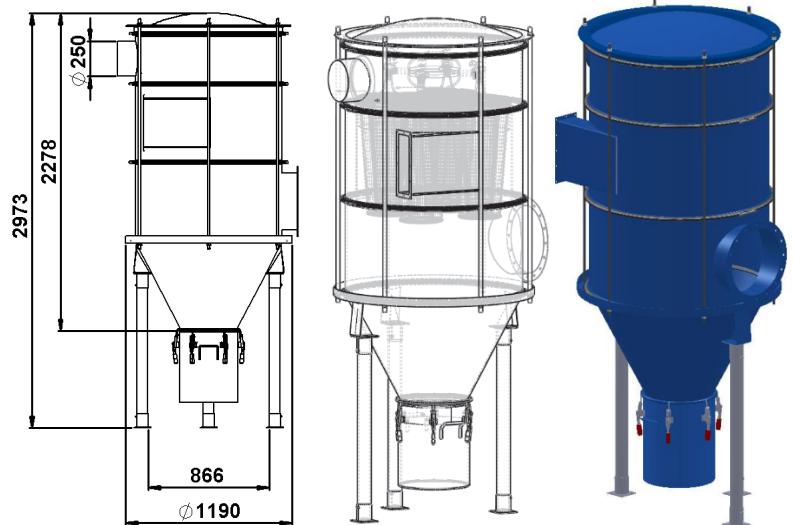
Part No.  
119201

# S 34000<sup>EX</sup>



## Technical data

Inlet mm	Ø optional
Outlet mm	Ø 250
Max Q	4000 m <sup>3</sup> /hour
Antistatic filter	34 m <sup>2</sup>
Vent	Ø 400
Q-pipe	optional
Kst	<= 200 bar/m/s
Compressed air	4 L/s, 4 bar
Connection, hose	6/8 mm
Electrical connection	24 V DC, 12 W
Container	60 L
Filter cleaning using reverse pulse	
Volume of air on contaminated side	1120 L



Part No.  
105901



## EX-Line

DC 1800 H EX

DC 2800 H



DC 1800 H EX

DC 2800 H EX

### Part No DC 1800 H EX

124000	230V, 50/60 Hz, EU
124001	230V, 50/60 Hz, UK
124002	115V, 50/60 Hz, UK
124003	115V, 50/60 Hz, US/CAN

### Part No DC 2800 H EX

124100	230V, 50/60 Hz, EU
124101	230V, 50/60 Hz, UK



The DC 1800 and 2800 H EX are suitable for general cleaning and source extraction. The DC 1800 H EX is small and lightweight and as such, suitable for those that need a highly portable machine that still is powerful enough for source extraction. The DC 1800 and 2800 H EX are equipped with a steel container. The machines are equipped with a brushless motor (for spark-free operation) and certified to IP54 standard (non conductive dust).

The EX-line is specially designed for industries where there is a risk of explosion and also high demands for clean production, such as the wood, food production and electronics industries.

The machines fulfil the requirements of the ATEX Zone 22 directive 2014/34/EU. Cleaning accessories from Dustcontrol are also available to meet these regulations.

Zone 22 is an area where an explosive environment, created by combustible airborne substances, does not occur in normal operation or only occurs short-term. These machines are equipped with steel containers, earth-bonded parts and antistatic accessories. The machines for non-conducting material are enclosed to IP54 standard. For conductive material, IP65 standard is required. The machines are virtually maintenance free and can extract dust in a vast range of applications such as source extraction when using power tools for grinding, cutting and drilling applications as well as general cleaning.

### Supplied with (Part No) DC1800 / DC 2800 H EX

Suction hose ATEX, Ø38, 5 m/ 20 in. (2027)  
Floor nozzle (7235E)  
Suction pipe Ø38 mm/1.5" (7257)  
Fine filter, polyester (42028)  
HEPA H13 filter (42027)

### Technical data DC1800 / DC 2800 H EX

HxWxD DC 1800 [mm/in]	840x400x400/33x16x16
HxWxD DC 2800 [mm/in]	1200x440x600/47x17x24
Weight DC 1800 [kg/lbs]	16.5/36
Weight DC 2800 [kg/lbs]	24.5/54
Collection container DC 1800 [l/gal]	20/5.3
Collection container DC 2800 [l/gal]	40/10.6
Flow max, fan, EU [m³/h]	200
Flow max, fan, US/CAN 115V [CFM]	117.7
Negative pressure, max, EU [kPa]	27
Negative pressure, max, US/CAN [inwg]	108.4
Power 115/230V [W]	1500
Sound level [dB(A)]	70



# DC 1800 DC 2800 H EX Stainless Steel

Dustcontrol's DC 1800/2800 EX are valued both for its easy handling and capacity when being used to reduce the risks of potential dust explosions in ATEX zone 22 (non-conductive dust).

However, there are areas with high hygienic demands (e.g. the food processing industry), which surpass the abilities of our standard DC 1800/2800 EX.

Suitable for operation in environments with potentially combustible dust (non-conductive); stainless steel design enables the use of alkaline wash solutions; high resistance to acids.

## Supplied with (Part No) DC1800 / DC 2800 H EX SS

Suction hose, antistatic Ø38 ATEX (2027)  
Suction hose ATEX, Ø38 mm, 5 m/ 20 in (2007)  
Floor nozzle 370 A-38, ESD-certified (7235E)  
Suction pipe Ø38 mm/1.5" (7257)  
Plastic bag (42951)  
Fine filter, polyester (42028)  
HEPA H13 filter (42027)

## Technical data DC1800 / DC 2800 H EX SS

HxWxD DC 1800 [mm/in] / DC 2800 [mm/in]	830x400x400/33x16x16
HxWxD DC 2800 [mm/in]	1200x440x600/47x17x24
Weight DC 1800 [kg/lbs] [kg/lbs]	16,5/36
Weight DC DC 2800 [kg/lbs]	24,5/54
Collection container DC 1800 [l/gal]	20/3.9
Collection container DC 2800 [l/gal]	40/10.56
Flow max, fan, EU [m³/h]	200
Flow max, fan, US/CAN 115V [CFM]	109
Negative pressure, max, EU [kPa]	27
Negative pressure, max, US/CAN [inwg]	100
Power 115/230V [W]	1500
Sound level [dB(A)]	70



DC 1800<sup>EX</sup> Stainless Steel

DC 2800<sup>EX</sup> Stainless Steel

## Part No DC 1800 H EX Stainless Steel

114004 230V, 50 Hz, EU

## Part No DC 2800 H EX Stainless Steel

114104 115V, 60 Hz, USA/CAN  
114105 230V, 50 Hz, EU



## EX-Line

# DC Tromb Turbo EX

The DC Tromb H Turbo EX for ATEX zone 22 is a medium sized dust extractor that expand the Tromb Family. Because it is equipped with a powerful three-phase turbo motor is suitable for long hoses (up to 20 metres) and heavy cleaning (38mm accessories). It is available certified to IP65 standard, ATEX zone 22 (conductive dust).



### Part No DC Tromb Turbo EX

173700 2.2 kW 400V /50z  
173702 4 hp 460V /60Hz



### Supplied with (Part No)

Suction hose Ø38/50 (2027 (2m), 2028 (5 m))  
Floor nozzle (7236E)  
Suction pipe Ø50 (7257)  
Antistatic Fine filter, polyester (44017-1)  
HEPA H13-filter (44016)  
Plastic bag (5 pcs) (42111)

### Technical data

HxWxD [mm/in]	1390x600x840/55x24x33
Weight [kg/lb]	Container 94/ 207.2
Collection container [l/gal]	40/10.6
Flow max, fan, EU [m³/h]	260
Flow max, fan, US/CAN 115V [cfm]	153
Negative pressure, max, EU [kPa]	26
Negative pressure, max, US/CAN [inwg]	104.3
Power [kW]	2.2
Sound level [dB(A)]	75

# DC 5800 H Turbo EX

The DC 5800 H Turbo EX is designed for big hand held power tools and heavy cleaning. The unit is of robust and sturdy design for maximum dependability, coupled with a direct driven turbo pump for continuous operation. It is certified to IP65 standard (conductive dust).



### Part No DC 5800H Turbo EX

119312 4 kW 400V /50 Hz  
119313 10 hp 460V /60 Hz



### Supplied with (Part No)

Suction hose ATEX, Ø50, 7.5 m (2028)  
Floor nozzle (7238E)  
Suction pipe, Ø50 mm /2" (7265)  
Fine filter, antistatic (429206)  
HEPA H13 filter (42869)

### Technical data

HxWxD [mm/in]	1942x780x1160/76x31x46
Weight [kg/lbs]	ca 170/375
Collection container [l/gal]	40/10,5
Flow max, fan, EU [m³/h]	470
Flow max, fan, US/CAN 115V [CFM]	276
Negative pressure, max, EU [kPa]	28
Negative pressure, max, US/CAN	112
Power 115/230V [W]	4 kW /10 hp
Sound level [dB(A)]	75

## Compressed Air Driven Dust Extractors

# DC 1800 TR EX

The DC 1800/2800 TR EX removes dust in three stages. The first separation occurs in the unit's cyclone, which is a very efficient separation of all the coarser dust. The finer dust is separated in the unit's filter cartridges, and then the HEPA filter takes care the rest of the dust. Filter cleaning with pulse provides long filter life and constant capacity. Vacuum is created in the ejector. The ejector is maintenance

**Part No DC 1800 TR EX** 101890

### Supplied with (Part No)

Fine filter cellulose (42029)  
Plastic bags (42384)  
HEPA H13 filter (42027)



### Technical data

HxWxD [mm/in]	32x15x15/ 82.5x38x38
Weight [kg/lbs]	22/10
Inlet [mm/in]	Ø50/2
Hose I max rec'd (Ø 2"/50 mm)	15' /5 m
Collection container [l/gal]	5.3/20
Max Q, CFM /m³/h	/170
CA consumption at 90psi /7 bar	5.3 gal/s /20 l/s
Air Connection	½" ball valve
Max vacuum, inwg/kPa	64/16
Fine Filter area, ft² /m²	16/1.5
Sound level [dB(A)]	68

# DC 2800 TR EX

Description see DC 1800 TR EX above.

**Part No DC 2800 TR EX** 121090

### Supplied with (Part No)

Fine filter cellulose (42029)  
Plastic bags, 5 pcs (42385)  
HEPA H13 filter (42027)



### Technical data

HxWxD [mm/in]	47x17x22/ 119.5x44x55
Weight [kg/lbs]	42/19
Inlet [mm/in]	Ø50/2
Hose I max rec'd (Ø 2" /50 m)	15' /5 m
Collection container [l/gal]	40/10.5
Max Q [m³/h / CFM]	170/102
CA consumption at 90psi/7bar	5.3 gal/s /20 l/s
Air Connection	½" ball valve
Max vacuum [kPa / inwg]	16 /64
Fine Filter area [m²/ft²]	16 /1.5
Sound level [dB(A)]	68

## Compressed Air Driven Dust Extractors

# DC 3800 TRS EX

The DC 3800 TR S EX is a compressed air driven extractor for use in areas where electrical power is not available or practical. The DC 3800TR S EX is a machine with large suction capacity and robust construction while still being compact and easy to maneuver. It is ideal for source extraction on most types of hand-held tools and for industrial cleaning (38 mm and 50 mm system).

**Part No DC 3800 TRS EX 117100**

### Supplied with (Part No)

Plastic bag, standard antistatic, ESD (42384)  
Fine filter, antistatic (4202501)  
HEPA H13 filter (42024)

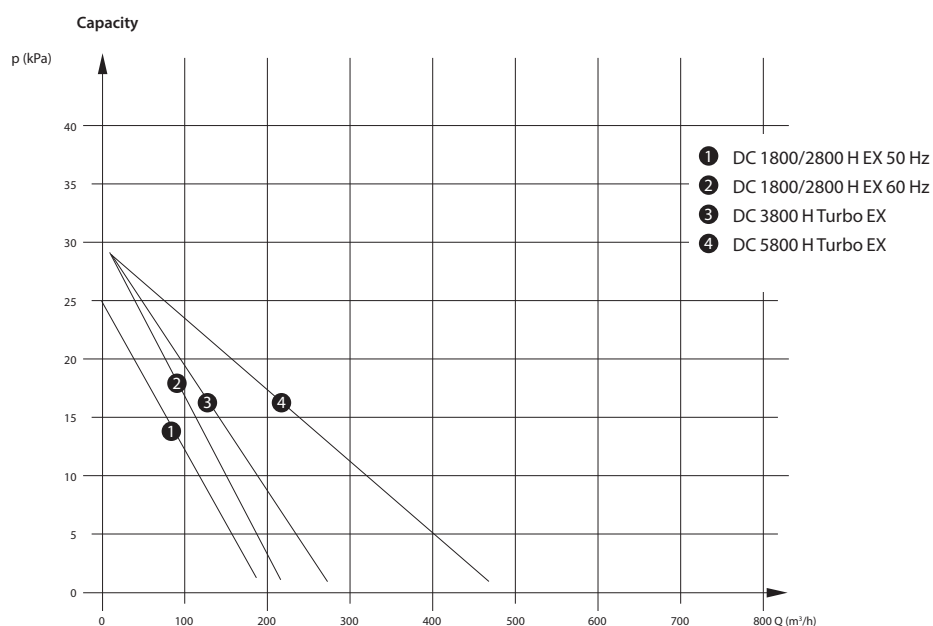


### Technical data

HxWxD [mm/in]	55x24x36/ 139x60x92
Weight [kg/lbs]	84/38
Inlet, (nom)	Ø 2"/50 mm
Hose l max rec'd (Ø 2" /50 mm)	15'-50'/5-15m
Collection container [l/gal]	10.5 gal/40 l
Max Q, ft <sup>3</sup> / m <sup>3</sup> /h	14126/400
CA consumption at 90psi/6 bar	63.5CFM/20 l/s
Air Connection	1" ball valve
Max vacuum, inwg/kPa	80/20
Fine Filter area, ft <sup>2</sup> /m <sup>2</sup>	19.3/18
Sound level [dB(A)]	75



# Guide to the right EX-machine



TECHNICAL DATA	DC 1800 H EX	DC 2800 H EX	DC Tromb Turbo EX	DC 5800 H Turbo EX
HxWxD [mm/in]	830x402x382/33x16x15	1110x440x550/43x17x22		11942x780x1160/76x31x46
Weight [kg/lb]	16.5/36.4	24.5/54	70/154	ca 170/375
Inlet [mm/in]	X 50/2	X 50/2	X 50/2	X 76/3
Hose length, Ø50 mm [m/in]	5/197 (Ø38)	5/197 (Ø38)	5–20/197–784	5–30/197–1181
Collection container [l/gal]	20/5.3	40/10.5	40/10.5	40/10.5
Flow max, fan, EU [m³/h]	200	200	260	470
Flow max, fan, US/CAN [cfm]	117.7	117.7	153	276
Flow max, fan, EU [m³/h]	27	27	28	28
Flow max, fan, US/CAN [cfm]	100	100	112	112
Power 115/230V [W]	1500/1300	1500/1300	2200	4000
Filter area, fine filter [m²/ft²]	1.5 /16	1.5/16	2.5/27	8.4/90
<b>Degree of separation fine filter</b>				
EN 60335-2-69, Class M [%]	99	99	99	99
Filter area microfilter [m²/ft²]	0.85/9	0.85/9	2.2/23.6	2.7/29
<b>Degree of separation</b>				
Microfilter EN 1822-1	HEPA H13	HEPA H13	HEPA H13	HEPA H13
EN 60335-2-69, Class H [%]	99.995	99.995	99.995	99.995
Sound level [dB(A)]	70	70	75	75

\*115V /230V

Dustcontrol has been operating in the field of environmental equipment for more than 40 years, and has extensive experience in equipment and systems for potentially explosive dust.

Keeping the work environment clean and safe minimises the risk of dust explosion, maximises your production uptime, increases product quality and gives significant cost savings.

We work closely with our customers, which means that we are always up to date regarding the requirements, regulations and working conditions in different types of workplace. We supply products that meet these ever-changing needs. But it is not only products that we provide. We also provide the answers to questions such as:

How can you capture and extract different kinds of particles and pollutants in the best possible way for your business?

How do you deal with waste that can be recycled or reused?

With Dustcontrol as your business partner, you will get the answers to these and any other questions that you may have. Whatever the conditions, we develop a source extraction solution that is right for you and your business.

You can find more information at  
[www.dustcontrol.com](http://www.dustcontrol.com)

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Healthy Business  
**Dustcontrol**®