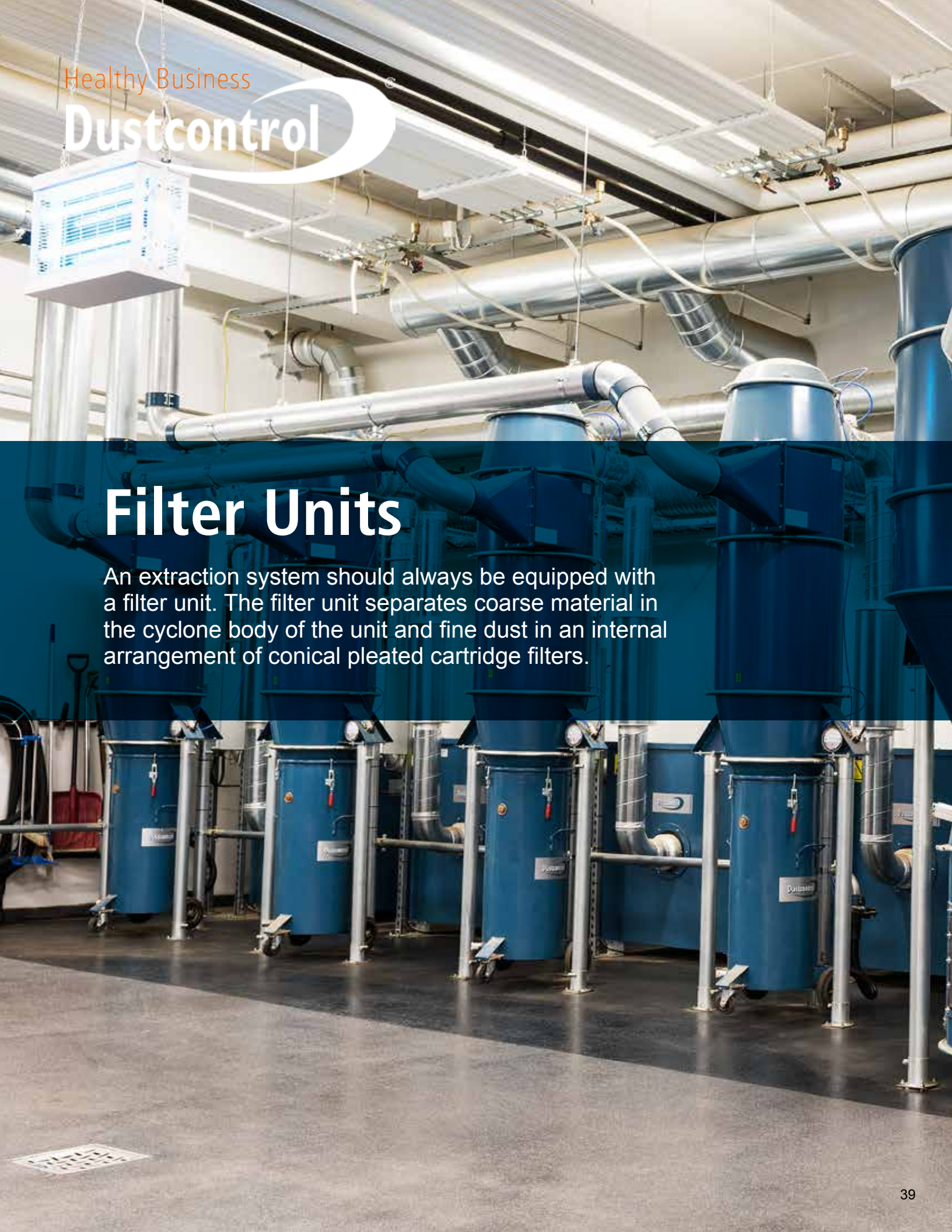
Healthy Business
Dustcontrol

Filter Units

An extraction system should always be equipped with a filter unit. The filter unit separates coarse material in the cyclone body of the unit and fine dust in an internal arrangement of conical pleated cartridge filters.



About Dustcontrol Filter Units

An extraction system should always be equipped with a filter unit. The filter unit separates coarse material in the cyclone body of the unit and fine dust in an internal arrangement of conical pleated cartridge filters. Pleated filters have very high filter areas in relation to their physical size. The filter units therefore have high capacity while maintaining compact overall dimensions.

Filters are cleaned with reverse pulse which results in very effective cleaning, long filter life and low maintenance.

Normally the filter units are equipped with a plastic bag or container for collection of the extracted material, but other types of discharge arrangements can also be installed.

General

In the filter unit, dust is separated from the air in several steps:

- the cyclone will separate particles down to a size of 1/100 mm.
- the filter will separate particles which go through the cyclone.

The dust laden air is introduced into the cyclone at a high velocity. Through centrifugal force the dust particles, with higher relative mass than the air molecules, are forced outward toward the wall of the cyclone and fall toward the bottom. The air flows toward the centre of the cyclone and through the filter.

Filter Loading

Permissible air flow determines the air velocity through the filter material, known as filter loading. Consider also inlet/outlet velocities. Permissible filter loading varies with dust type.

Dust type

Dust type	Permissible filter loading ($m^3/h)/m^2$
Stone	120
Concrete	120
Wood	160
Cement	120
Plastic	120
Graphite	60
Carbon black	60
Welding fume	60
Fibreglass	60

Example

For the extraction of welding fume, the maximum permissible flow in the S 34000 will be:

60 ($m^3/h)/m^2$ x 34 m^2 filter area = 2040 m^3/h

The velocity of the air through the inlet and outlet should not exceed 30 m/s. When one filter unit does not have sufficient capacity, several units can be connected in parallel.

Tip

For smaller systems, the filter unit and vacuum producer can be delivered unitized on a common chassis.

Filter Units

Choose the right filter unit

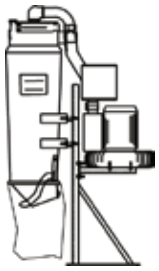
Dust type	Air Flow m³/h	Select filter unit
Stone, concrete, cement, wood, plastic, metal	≤ 1000*	S 11000
	1000-1500	S 21000
	1000-2000*	S 32000/2 x S 11000
	2000-4000*	S 34000
	4000-5000*	S 34000X
	≤ 8000	S 46000
Graphite, carbon black, welding fume, fibre glass	≤ 700	S 11000X
	700-1400	2 x S11000X
	700-2000	S 34000
	2000-2900	S 34000X
	≤ 5500	S 46000
ATEX	≤ 1000*	S 11000 EX**
	1000-1500	S 21000 EX**
	2000-4000*	S 34000 EX**

*) In applications with a large percentage of finer particulate, the above values should be reduced 20 %.
**) Kst <= 200 bar/m/s

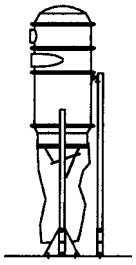
Central Units

Air flow*	Vacuum level required	Select unit
≤ 200 m³/h	normal	DC 3800 Stationary
200-400 m³/h	normal	DC 11-Module 5.5/7.5 kW
200-400 m³/h	large	DC 11-Module 11 kW S

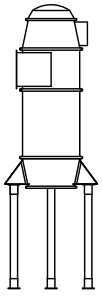
*) always consider dust type and filter loading as above



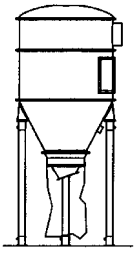
DC 3800
Stationary



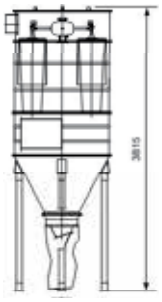
S 11000
S 11000X



S 21000



S 32000
S 34000
S 34000X



S 46000

Tip For smaller systems, the filter unit and vacuum producer can be delivered unitized on a common chassis.

Filter Units

S 11000, S 11000X

The S 11000 filter unit is of modular construction and is therefore flexible in application. The inlet module can for example, be both rotated and reversed.

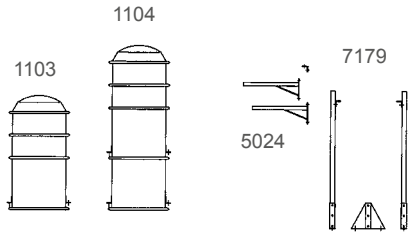
Additional module rings can be installed to increase the storage capacity of the cyclone. The S 11000 is either floor or wall mounted. The S 11000 and S 11000X must always be equipped with a discharge cone or other discharge arrangement.

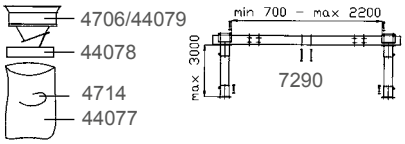
The X model is equipped with larger filter area and an extra module ring.

Part No	Description
1103	S 11000 AC
110302	S 11000 AC stainless steel
110300	S 11000 DC
1104	S 11000X AC
110400	S 11000X DC

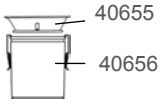
Accessories S 11000 and S 11000X (Part No)

4030 S 11000 HEPA-Module, post-assembly
40407 Module Ring
40655 Discharge Cone for container
40656 Steel Container, 40 l
42111 Collection Bag, 50 pcs, antistatic
42807 HEPA filter 3,7 m³
44077 Longopac Midi (1x25 m)
44078 Longopac Holder Midi
44079 Discharge Cone Longopac Midi
4706 Discharge Cone
4714 Collection Bag, 50 pcs
5024 Wall Bracket Complete
7179 Stand Complete





40407 or discharge into a container

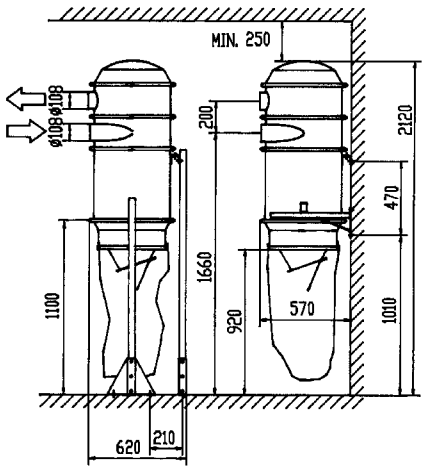


7290 Widening Chassis
Used in applications where the separator is to discharge into a larger container such as a tipping container.

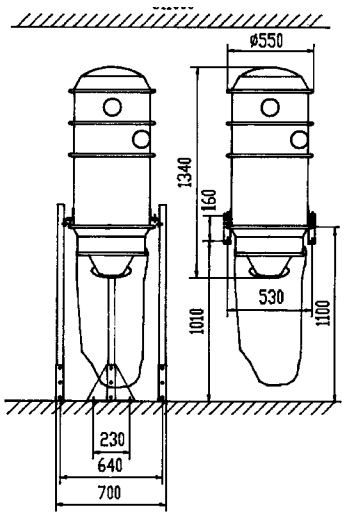
8188 Timer
Can be used to activate filter cleaning.

Dimensions, arrangements

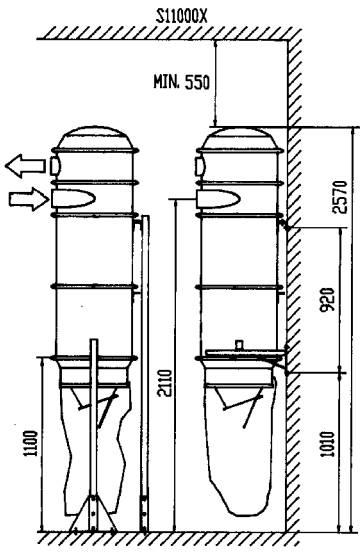
S 11000



S 11000

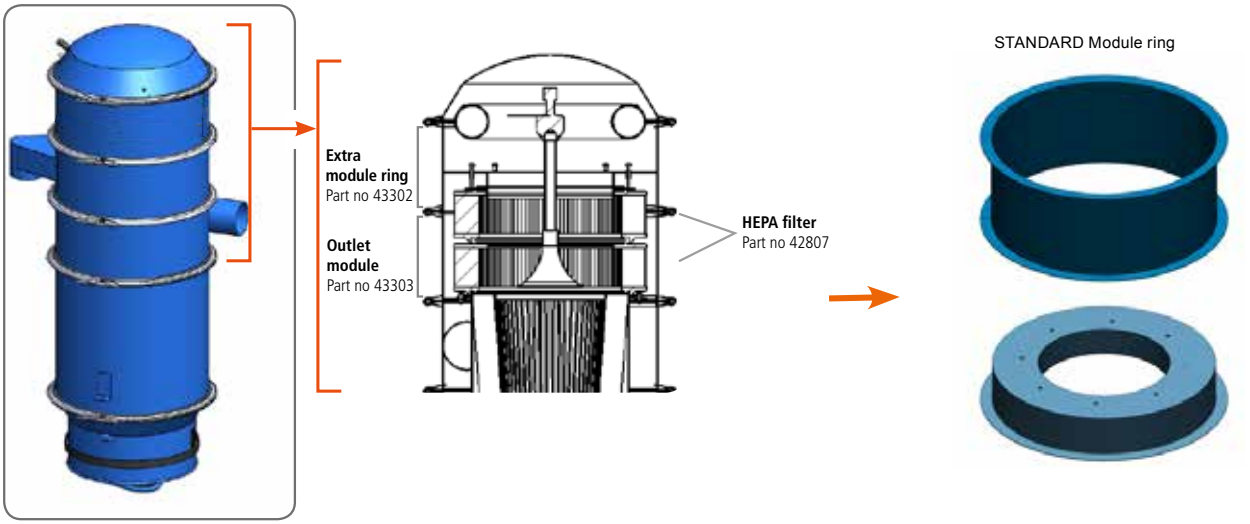


S 11000X



Filter Units

S 11000, S 11000X with HEPA-Module



S11000 filter units, DC 11000 dust extractors and DC 11-modules may be combined or completed with with Dustcontrol's HEPA-Module. It fulfills the HEPA H13 specifications and is excellent for cleaning air. The module is specially suited to capture the smallest and most dangerous particles. It also works as an extra protection for the pump and motor.

The HEPA-Module complete (part no 4030) consists of two HEPA-filters (part no 42807), an outlet module (part no 43303) and an extra module ring (part no 43302) with a welded inner part to keep the filters in place. The HEPA-Module will be delivered with all necessary parts such as gaskets and joints for quick and easy mounting to the existing product.

Accessories S 11000 and S 11000X (Part No)

4030 S 11000 HEPA-Module, post-assembly

Part No	Description
4030	HEPA-Module complete*
11034	S11000 HEPA AC
110304	S11000 HEPA DC
11044	S11000X HEPA AC
110404	S11000X HEPA DC

* For post-assembly

4030 HEPA-Module Complete for Post-Assembly

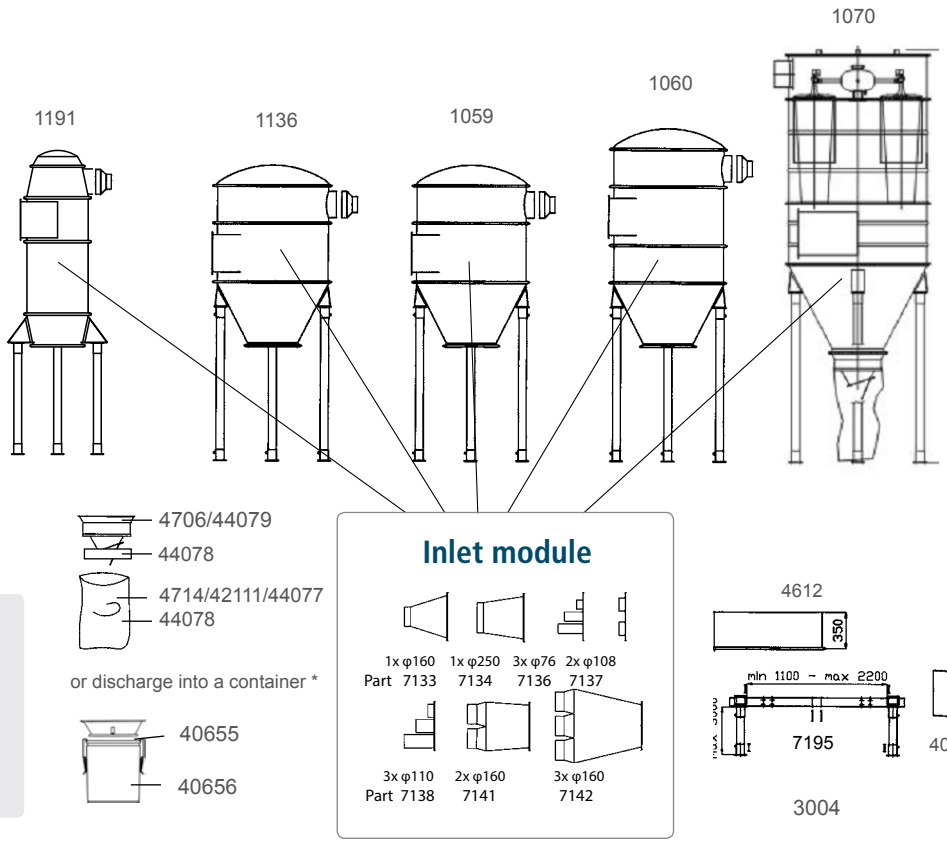
- Easy to mount on top of an existing S11000, DC 11-Module or DC11000, see owners manual
- Just 200 mm extra height on the existing cyclone
- Fits on older and new cyclones
- Copes with high pressure and high air flow (max Q= 1000 m^3/h, max dp= 40 kPa)
- Easy filter change

Filter Units

S 21000, S 32000, S 34000, S 34000X, S 46000

The S 21000 and S 34000 are constructed of modules and are therefore very flexible. The inlet modules can for example be both rotated and reversed. Additional module rings can be installed to give increased storage capacity of collected material. The X model is equipped with a larger filter area and an extra module ring.

The S 21000, S 32000, S 34000, S 34000X and S 46000 are installed on legs. As standard, extracted material is collected in a plastic bag, alternative discharge options can be selected.



Part No	Description	Part No	Description
1191	S 21000 AC	119100	S 21000 DC
1136	S 32000 AC	113600	S 32000 DC
1059	S 34000 AC	105900	S 34000 DC
1060	S 34000X AC	106000	S 34000X DC
1070	S 46000 AC	107000	S 46000 DC

* Other options available, see Pre-Separator chapter

Technical data

	S 11000	S 11000X	S 21000	S 32000	S 34000	S 34000X	S 46000
Inlet mm	Ø 108	Ø 108	optional	optional	optional	optional	optional
Outlet mm	Ø 108	Ø 108	Ø 250	Ø 250	Ø 250	Ø 250	Ø 250 x 2
Max Q	1000 m³/h*	1000 m³/h*	1500 m³/h*	2000 m³/h*	4000 m³/h*	5000 m³/h)	8600 m³/h*
Filters: Pleated polyester cartridge							
Part no x pcs	4292 x 1	4284 x 1	4284 x 1	4292 x 2	4292 x 4	4284 x 4	4284 x 6
Total filter area	8.4 m²	12 m²	12 m²	16.8 m²	34 m²	48 m²	72 m²
Degree of separation	> 99.9 %	> 99.9 %	> 99.9 %	> 99.9%	> 99.9 %	> 99.9 %	> 99.9 %
Class according to EN 60335	M	M	M	M	M	M	M
Max temperature, filter	130ºC	130ºC	130ºC	130ºC	130ºC	130ºC	130ºC
Filter cleaning with Reverse Pulse							
Compressed air	4 l/s, 4 bar	4 l/s, 4 bar	4 l/s, 4 bar	4 l/s, 4 bar	4 l/s, 4 bar	4 l/s, 4 bar	4 l/s, 4 bar
Connection, hose	6/8 mm	6/8 mm	6/8 mm	6/8 mm	6/8 mm	6/8 mm	6/8 mm
El connection	24V AC alt. DC,12 W	24V AC alt. DC,12 W	24V AC alt. DC,12 W	24V AC alt. DC,12 W	24V AC alt. DC,12 W	24V AC alt. DC,12 W	24V AC alt. DC,12 W
Max P (kPa)	40 kPa	40 kPa	40 kPa	40 kPa	40 kPa	40 kPa	20 kPa

*Note: Always consider filter loading.

Accessories on the following page

Filter Units

S 21000, S 32000, S 34000, S 34000X, S 46000

Accessories (Part No)

3004 Steel Tube 76 mm, galvanized Delivered in 3 m lengths. Used for longer legs when required (standard leg L=1400 mm)

40007 Inlet Wear Plate S 32/34000 Inlet wear plate for minimising wall wear on the cyclone when collecting abrasive material.

42111 Collection Bag, 50 pcs, antistatic

40655 Discharge Cone for container
40656 Steel Container

44077 Longopac Midi (1x25 m)
44078 Discharge Cone
44079 Discharge Cone Longopac Midi

4612 Module Ring, complete S 32/34000. Increases the height of the cyclone by 0.35 m and volume by ca 0.3 m³.

4706 Discharge Cone for bag
4714 Collection Bag, 50 pcs

7133 Inlet D = 160x1
7134 Inlet D = 250x1
7136 Inlet D = 76x3
7137 Inlet D = 110x2

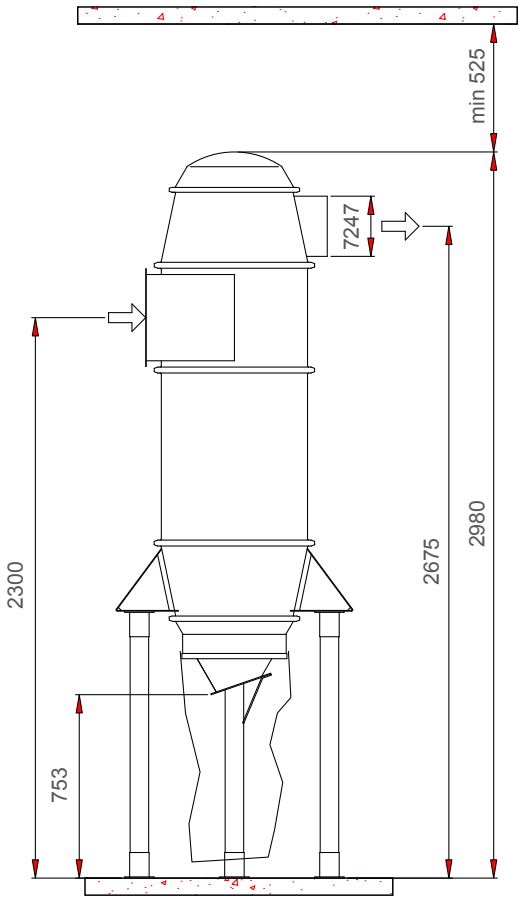
7138 Inlet D = 110x3
7141 Inlet D = 160x
7142 Inlet D = 160x3

7195 Widening Chassis
Used when collected material is to be deposited in a container up to 1,1 m³. Increases width between the legs from 860 mm to 1460 mm. "With legs > 3000 mm a widening chassis should be ordered."

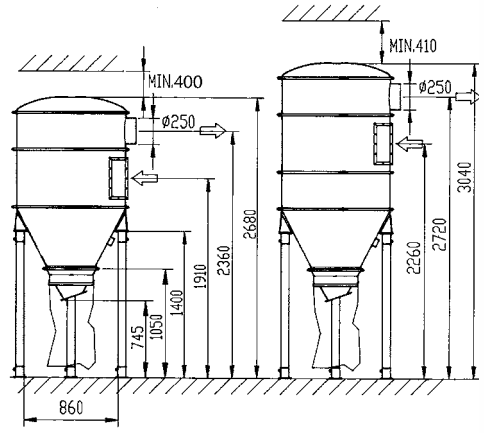
819001 Sequence Control S 32/34000. Can be used to activate filter cleaning.

Dimensions, arrangements

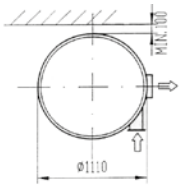
S 21000

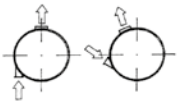


S 32000
S 34000

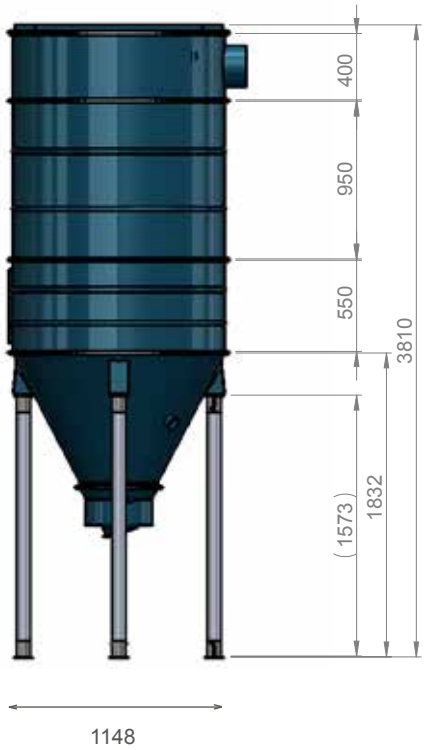


S 34000X





S 46000



Filter Units

S 11000 EX, S 21000 EX, S 34000 EX

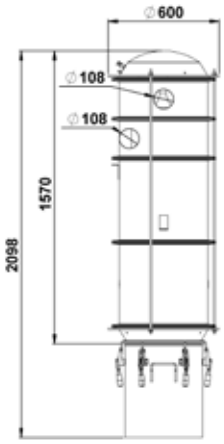
Dustcontrol has been operating in the field of environmental equipment for more than 40 years and has extensive experience in equipment and systems for potentially explosive dust.

Keeping the work environment clean and safe minimises the risk of explosion, maximises your production up-time, increases your products' quality and gives significant cost savings.

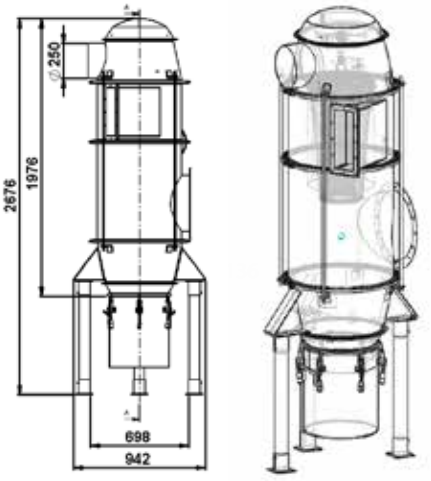
S 11000 / S 21000 / S 34000 EX are the new generation high vacuum dust collectors for potentially combustible dust. The units comply with the ATEX directive.

S 11000 / S 21000 / S 34000 EX have been created in order 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 placed in areas classified as zone 22 according to directive 1999/92/EC.

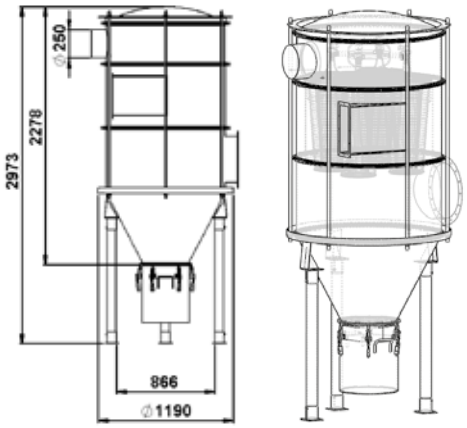
S 11000 EX



S 21000 EX



S 34000 EX



Part No	Description
110301	S 11000 EX
119201	S 21000 EX
105901	S 34000 EX

Technical data

	S 11000 EX	S 21000 EX	S 34000 EX
Inlet mm	Ø 108	optional	optional
Outlet mm	Ø 108	Ø 250	Ø 250
Max Q	1000 m^3/h	1500 m^3/h	4000 m^3/h
Soiled side air volume	251 l	464 l	1312 l
Filters: Pleated Polyester Cartr (Part No and pcs)	429206 x 1	429206 x 1	429206 x 4
Total Filter Area	8.4 m^2	8.4 m^2	34 m^2
Degree of separation EN 60335	> 99.9 %	> 99.9 %	> 99.9%
Container	60 l	60 l	60 l
Max temp filter	130°C	130°C	130°C
Filter cleaning with Reverse Pulse			
Compressed air	4 l/s, 4 bar	4 l/s, 4 bar	4 l/s, 4 bar
Connection, hose	6/8 mm	6/8 mm	6/8 mm
El connection	24 V DC,12 W	24 V DC,12 W	24 V DC,12 W

II3D

Filter Units

DC HEPA box

Contamination free filter change

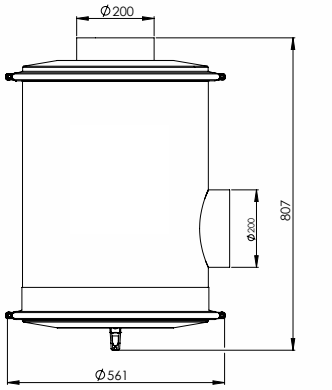
Within the BioPharma, food processing, electronic, car and aerospace industries (just to name a few) there are numerous environments which need extreme safeguards against dispersion of particles and aerosols. Here the DC HEPA box enters the arena as a additional filter with a highest filtration level (>0.15 micro meter).

The DC HEPA box has a robust design and withholds high negative pressure (40 kPa) which differentiates it from competing products.

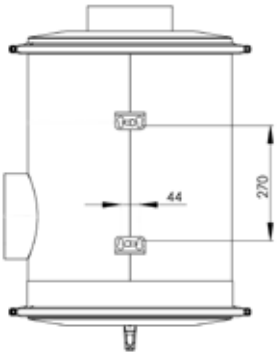
The DC HEPA box is even recommended for use as a “police filter” between the filter unit and the vacuum producer in an ATEX environment.

If for any reason the filter unit fails, the DC HEPA box stops the dust from reaching the radial blower or turbo pump. In this way all standard vacuum producers can be used for ATEX applications, provided that the vacuum producer is placed outside an ATEX zone.

Part No	Description
1180	DC HEPA box



Contamination free



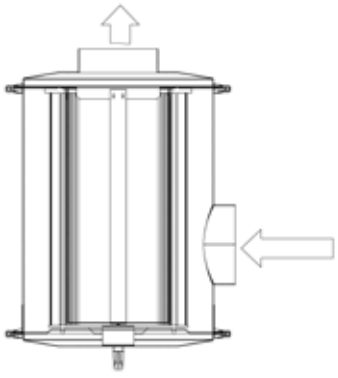
Wall Mounting

Accessories (Part No)

42111 Plastic Bag ESD
42896-1 Hepa Filter

Technical data

Inlet/outlet	Ø 200 mm
Height	810 mm
Diameter	577 mm
Weight	86 lbs/39 kg
Filter area	10.2 m^2
Airflow	2500 m^3/h
Negative pressure	40 kPa
Filter type	HEPA H13 EN1822-1
Mounting	Wall and ceiling



Air flow