

Healthy Business

Dustcontrol

Pre-Separators

When large quantities of material are to be separated, it is advisable to use a pre-separator. The pre-separator can be placed at the workplace or in conjunction with the central unit.

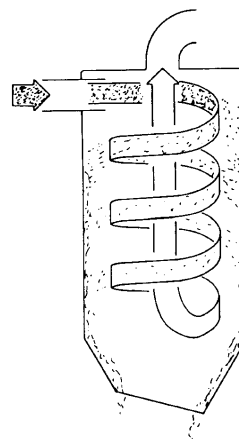


About Pre-Separators

Pre-Separators can be used in all applications where the extracted material is coarse or voluminous. These can be placed in the actual workplace for separate handling or recovery of the extracted material, or centrally.

Pre-Separators separate material from the air flow using the action of a cyclone or with inertial separation. Inertial separators are generally configured as containers with the inlet and outlet in the same wall of the container. When the air flow changes direction abruptly, separation occurs for the particles with higher relative mass.

When pre-separation is used to accommodate higher material volumes it is also important to consider the type of material discharge to be used. Dustcontrol offers a range of different standard options including; screw compaction, airlocks or container collection.



Cyclone Principle meaning that the inlet is mounted tangentially on the body and the air flow is thus forced against the inside of the cyclone.

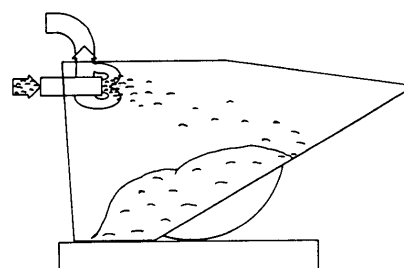
This principle is very effective in separating particles down to 1/100 mm.

When a Pre-Separator is to be used the following should be considered:

1. Type of dust to be handled.
2. How the unit should be placed and how emptying will be performed.
3. Expected airflow.

Pre-Separators should be used:

- for material recovery
- for material transportation
- to reduce the loading on the ducting system
- to relieve loading on the central filter
- to reduce the risk of filter clogging
- when fluids are to be separated



Inertial Principle meaning that the air stream flows into the container and abruptly changes course.

The outlet sits behind the inlet and the particles are thus thrown into the container.

Pre-Separators

Cyclone Pre-Separators



Type of material	Air flow (m³/h)	Select Pre-Separator
All types, particularly where	100–200	DCF 60, F 2500, DCF 2800
a large percentage is fine	100–500	DCF Mobil
particulate	200–500	F 3500
	500–700	F 8000
	500–1000	F 11000
	1000–4000	F 20000
	2000–5000	F 30000



Discharge to	Volume	Equipment
Plastic bag	lesser	Discharge cone
Compacted in plastic bag	greater	Auger Compactor
Open Container, Conveyor	lesser	Foot Valves/Auto Foot Valve/ Discharge Valves
	greater	Peristaltic Airlock
Small Container	lesser	With or without plastic bag
Tipping Container	greater	



Inertial Pre-Separators



Material type	Air flow (m³/h)	Volume	Select Pre-Separator
Coarse and dense	250-2000	moderate	Tipping Container
	250-2000	large	Large Container

Pre-Separators

DCF Mobile

The DCF Mobile is suitable for the separation of different types of coarse material, liquids and water. It is light and fitted with wheels, so it can be connected to the workplace directly, thereby reducing the loading on the ducting system and minimising the risk of blockage.

The DCF Mobile is the standard model of the mobile pre-separator. For emptying, the snap-on catches on the top cover are released and the material is shovelled or tipped out.

Part No	Type
7010	DCF Mobile Standard
7074	DCF Mobile Plastic Bag
7073	DCF Mobile Liquid Separator
7009	DCF Mobile Water Separator
7097	DCF Mobile Cyclone

Mobile with Plastic bag / 7074



The DCF Mobile complete with plastic bag has the same fittings as the standard model plus plastic bags and a pressure compensating hose in order to obtain the same vacuum outside and inside the plastic bag. This pre-separator is suitable for use when handling materials which need to be collected in a sealed package.

Mobile with Liquid Separator/ 7073



The DCF Mobile Liquid Separator is fitted with an intermediate grill and drain cock. It is suitable for handling chips where cutting fluids and coolants are also collected.

Mobile with Cyclone / 7097



The DCF Mobile Cyclone has a high efficiency cyclone mounted on the top cover. Thanks to the small diameter of the cylinder in relation to its height and to the specially shaped inlet, this separator can separate even smaller and lighter materials such as asbestos fibres. The separated material then falls into the container which is fitted with a plastic bag for dust-free handling.

Mobile with Water Separator / 7009



The DCF Mobile Water Separator is fitted with Ø 50 mm drain cock. This is used where large amounts of water will be separated.



Accessories (Part No)

4714 Collecting bag, 50 pcs for Pre-Separators 7074 and 7097



Technical data

see the following page

Pre-Separators

DCF Mobile

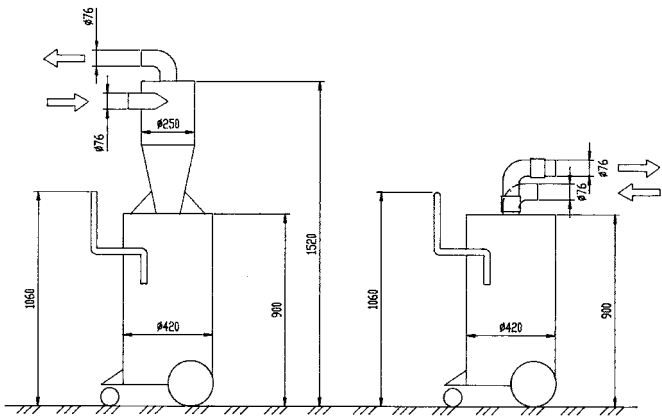


Technical data

DCF Mobile

Container volume	95 l/25.1 gal (US)
Height	900 mm/35.4 in/1650 mm/65 in (with cyclone)
Container diameter	440 mm/17.3 in
Weight	30 kg/66 lb/35 kg/77 lb (with cyclone)
Inlet/Outlet	Ø 76 mm/3"
Air Flow	100–500 m³/h 59-294 cfm

Dimensions



DCF 60

The DCF 60 Pre-Separator can handle large quantities of dust. Due to its large inlet the Pre-Separator is also well suited to separate coarse dirt. Perfect for wood floor grinding.

Part No 7069 DCF 60 with wheel set



Technical data

H x W x D (cm/inch)	106x38x38 / 42"x15"x15"
Weight	10 kg /22 lbs
Inlet	Ø50 mm /2"
Container	60 l /16 US gal

DCF 2800

The DCF 2800 Pre-Separator is often used in combination with the DC 2900 dust extractor to relieve the loading on the filter.

Part No 7372 DCF 2800



Technical data

H x W x D (cm/inch)	100x54x45 / 39"x21"x18"
Weight	10 kg /22 lbs
Inlet/Outlet	Ø50 mm /2"
Cyclone diameter	Ø250 mm /10"
Collection	40 l /10 US gal



Supplied with (Part No)

42702 Plastic bags

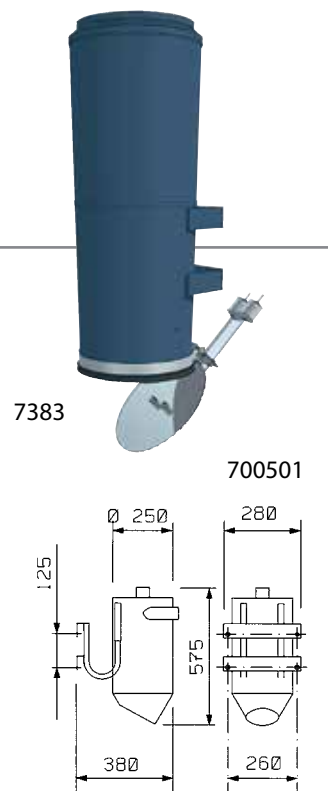
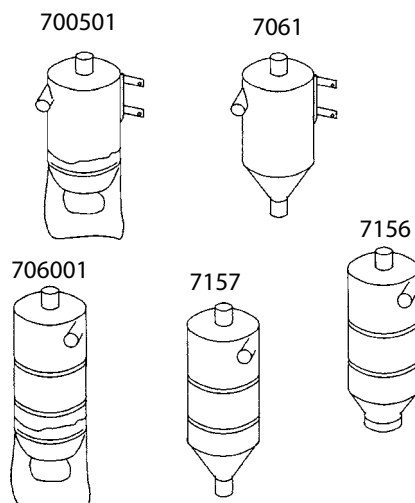
Pre-Separators

F 2500, F 3500

The F 2500 and F 3500 are wall mounted cyclone type pre-separators used directly at the work station to relieve loading on the tubing system/filter or for separation of recoverable material. These can also be used as central pre-separators in smaller systems with the DC 3800 and DC 11-Module respectively.

Part No	Description
700501	F 2500
7061	F 2500, Fluid separator ø76
7379	F 2500 with Counter Balance Arrangement
706001	F 3500
7157	F 3500 Fluid separator ø76
7156	F 3500 with cone D=160
7383	F 3500 with Counter Balance Arrangement

Dimensions, installation examples



Technical data

F 2500

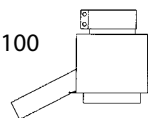
F 3500

Weight, kg	5	13
In/outlet, mm	Ø 50	Ø 76
Air flow m³/h	100-200	200-500

42384/42702 4314

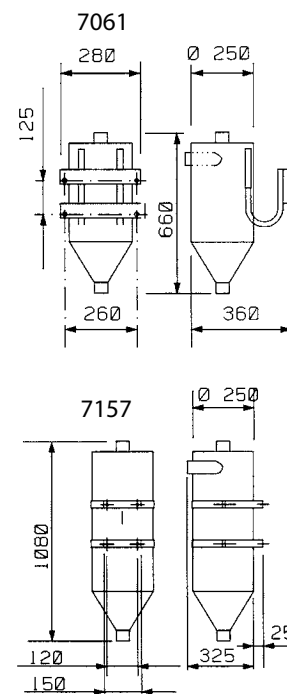
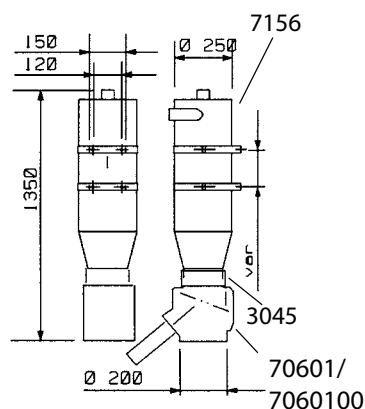


70601/ 7060100



Accessories (Part No)

- 42384** Plastic Bag, F 2500, antistatic
 - 4314** Plastic Bag, F 3500, 50 pcs
 - 42702** IntelliBag 10 pcs/roll
 - 706701** Discharge Valve 160 mm - AC
 - 70670100** Discharge Valve 160 mm - DC
- Installed for discharge to an open container. Controlled discharge can occur with this pneumatically actuated valve. Must be connected to a suitable control panel.
- 7128** Return Valve for Fluid Separator



Pre-Separators

F 8000

The F 8000 is a high efficiency cyclone separator for the separation of fine and light dust, e.g. wood dust.

It can be equipped with a 40407 Module Ring to create a larger storage capacity. For alternatives to part no 746100, see discharge options.

Separation can be improved by equipping the Pre-Separator with a vortex tube and by increasing the height with an extra body module.

Part No 7450

F 8000 Complete is delivered with; 7344, 7345, 7461 and 2 x 3037



Technical data

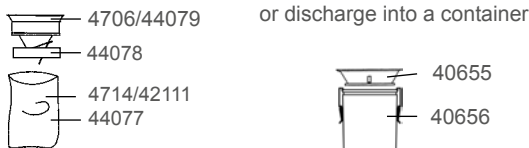
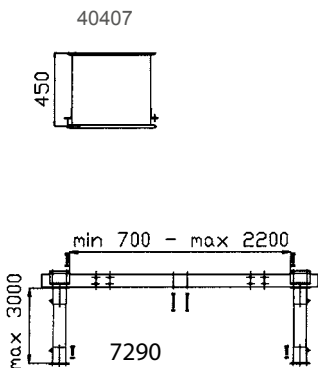
F 8000

Weight, kg	~ 15
Inlet, mm	Ø 108
Outlet, mm	Ø 108
Flow m³/h	500-700
Body, Ø mm	Ø 300

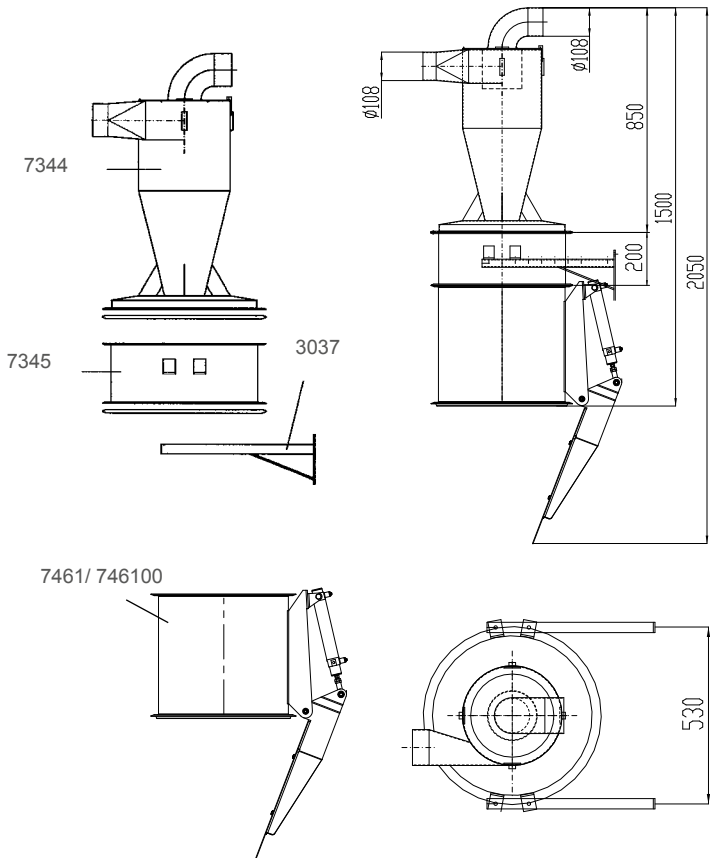


Accessories F 8000 (Part No)

- 3037** Bracket 500 mm (2 pcs required)
- 7290** Widening Chassis
- 7311** Vortex Tube
- 7344** F 8000 Cyclone
- 7345** F 8000 Body Module
- 40407** Module Ring. Used in applications with light dust, i.e. paper.
- 7450** F 8000 Complete
- 7461** Auto Foot Valve 470 mm, AC
- 746100** Auto Foot Valve 470 mm, DC



Dimensions, Installation examples F 8000



Pre-Separators

F 11000

The F 11000 is a modular cyclone pre-separator that is very flexible and can be configured easily to an exact requirement. Discharge equipment options can be used alternatively to the discharge cone with plastic bag collection.

Separation can be improved by equipping the pre-separator with a vortex tube and by increasing the height with an extra body module.

Part No	Description
7177	F 11000 without Cone
4706	Discharge Cone for bag
42111	Collection Bag, 50 pcs, antistatic
4714	Collection Bag, 50 pcs
5024	Wall Bracket, complete



+ Accessories F 11000 (Part No)

- 40407** Module Ring
Used in applications with light dust, i.e. paper.
- 40655** Discharge Cone for container
- 40656** Steel Container, 40 l
- 44077** Longopac Midi (1x25 m)
- 44078** Discharge Cone
- 44079** Discharge Cone Longopac Midi
- 7179** Floor Stand, complete
- 7290** Widening Chassis
- 7311** Vortex Tube

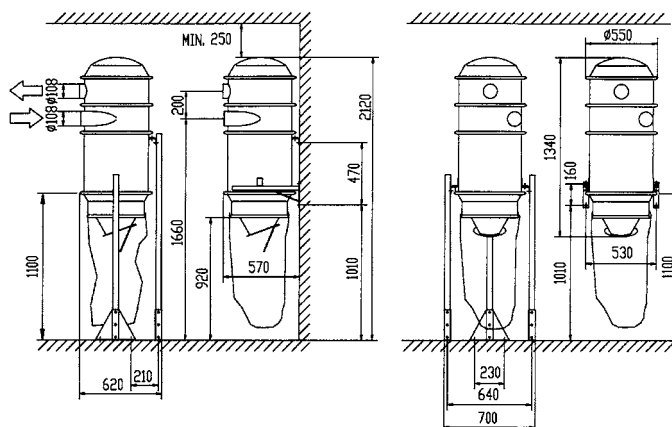
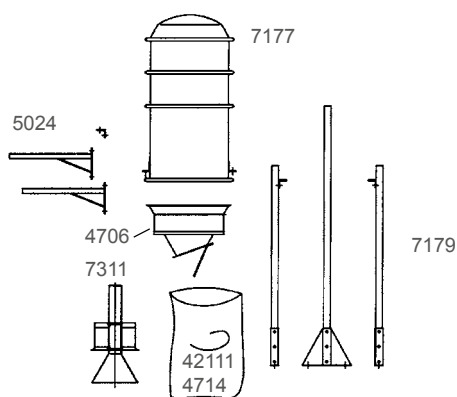


Technical data

F 11000

Weight, kg	ca 45
Inlet, mm	Ø 108
Outlet, mm	Ø 108
Flow m³/h	500-1000
Body, Ø mm	Ø 477

Dimensions, Installation examples F 11000



Pre-Separators

F 20000

The F 20000 is a modular cyclone separator for larger systems. The unit must be equipped with the appropriate inlet module and discharge arrangement, e.g.: discharge cone or alternative selection. See chapter 6.

Part No	Description
7185	F 20000 Complete
4706	Discharge Cone
4714	Collection Bag, 50 pcs
42111	Collection Bag, 50 pcs, antistatic
40655	Discharge Cone for container
40656	Steel Container, 40 l



Accessories F 20000 (Part No)

- 40007 Inlet wear plate
- 44077 Longopac Midi (1x25 m)
- 44078 Longopac Holder
- 44079 Discharge Cone Longopac Midi
- 7133 Inlet D = 160x1
- 7134 Inlet D = 250x1
- 7136 Inlet D = 76x3
- 7137 Inlet D = 110x2
- 7138 Inlet D = 110x3
- 7141 Inlet D = 160x2
- 7142 Inlet D = 160x3

7189 Vortex Tube
Used in applications with light dust, e.g. paper, to increase separation efficiency of the separator.

- 7195** Widening Chassis
For applications where material is to be discharged into a larger receiver such as a tipping container. "With legs >3000 mm a widening chassi should be ordered."
- 3004** Steel Tube 76 mm, galvanised. Ordered by the meter and delivered in 3 m lengths. Used when leg length required is greater than the 1400 mm legs delivered with the unit.

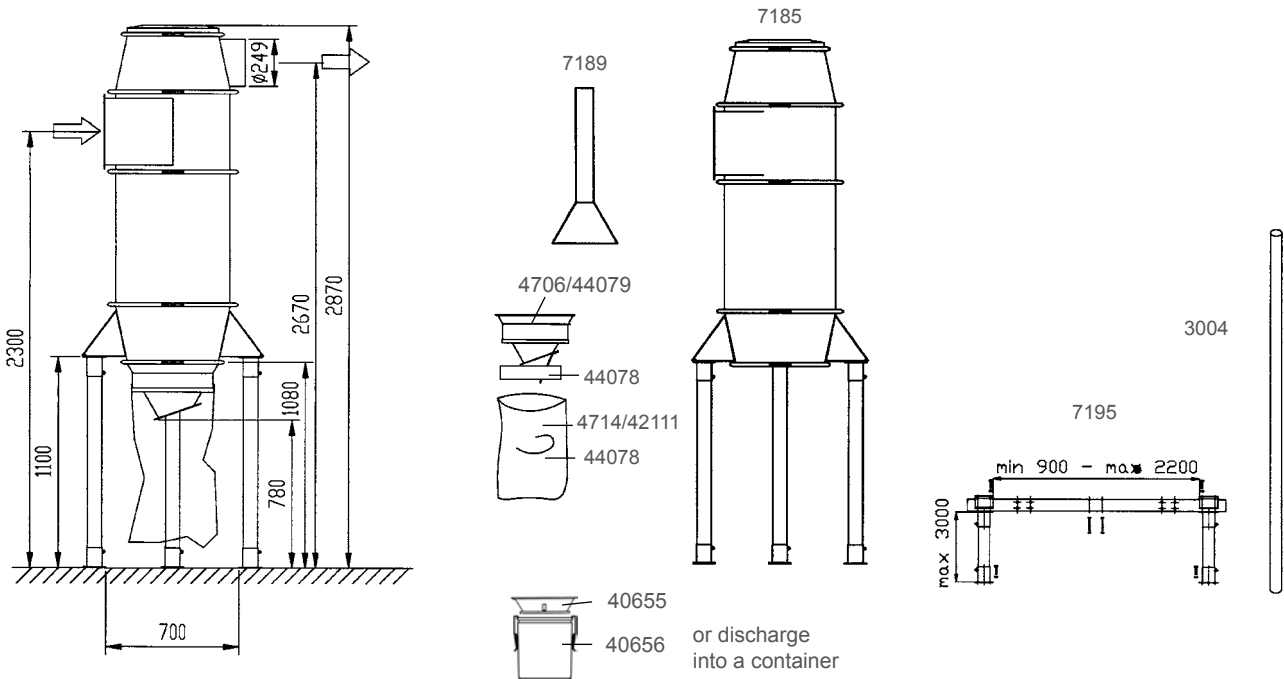
Dimensions, Installation examples F 20000



Technical data

F 20000

Weight, kg	120
Inlet, mm	optional
Outlet, mm	Ø 250
Flow m³/h	1000-4000
Body, Ø mm	Ø 596



Pre-Separators

F 30000

The F 30000 is a modular cyclone separator for large systems. The configuration of the separator is easily tailored to the specific application. The unit must be equipped with the appropriate inlet module and discharge arrangement, e.g.: discharge cone or alternative selection.

Part No	Description
7166	F 30000
4706	Discharge Cone
4714	Collection Bag, 50 pcs
42111	Collection Bag, 50 pcs, antistatic
40655	Discharge Cone for container
40656	Steel Container, 40 l



Technical data

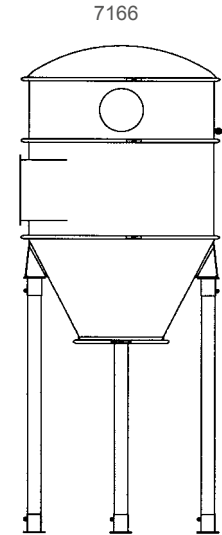
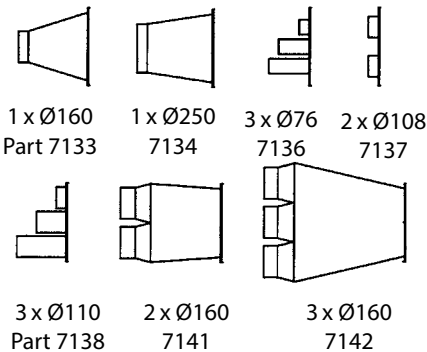
F 30000

Weight, kg	ca 170
Inlet, mm	optional
Outlet, mm	Ø 250
Flow m³/h	2000-5000
Body, Ø mm	Ø 1045

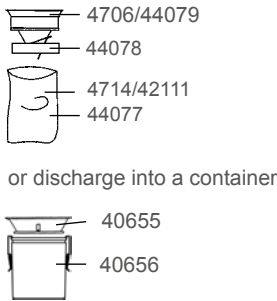
Accessories F 30000

- 7133** Inlet D = 160x1
- 7134** Inlet D = 250x1
- 7136** Inlet D = 76x3
- 7137** Inlet D = 110x2
- 7138** Inlet D = 110x3
- 7141** Inlet D = 160x2
- 7142** Inlet D = 160x3

Inlet modules for F 20000 and F 30000



Components F 30000



+ More accessories for F 30000 on the following page

Pre-Separators

F 30000

+ Accessories F 30000 (Part No)

3004 Steel Tube 76 mm, galvanised
Ordered by the metre and delivered in
3 m lengths. Used when leg length required
is greater than the 1400 mm legs delivered
with the unit.

3294 Spiral tubing Ø 315
For connection to pressure relief module.

40007 Inlet Wear Plate. This is installed
in the inlet module of the separator and
increases the resistance to abrasion
caused by incoming material
in the gas flow.

40655 Discharge Cone for container

40656 Steel Container

42111 Collection Bag, 50 pcs, antistatic

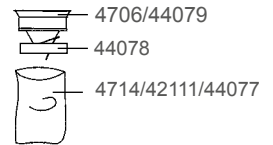
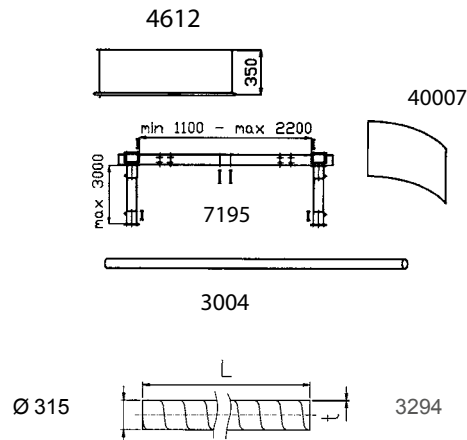
44077 Longopac Midi (1x25 m)

44078 Longopac Holder

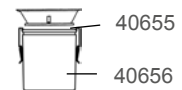
44079 Discharge Cone Longopac Midi

4612 Body Module

Increases the height of the cyclone
and can increase separation efficiency
for some materials.



or discharge into a container



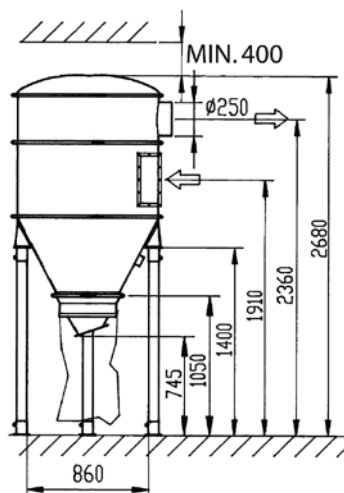
4706 Discharge Cone

4714 Collection Bag, 50 pcs

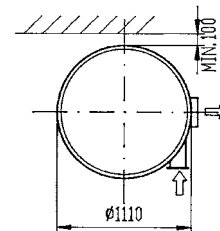
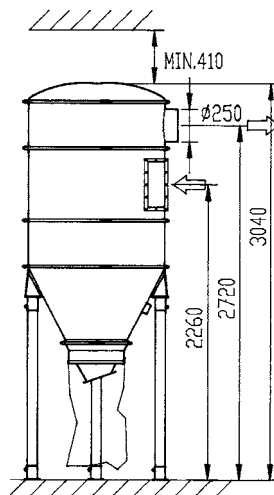
7195 Widening Chassis

For applications where material is to be
discharged into a larger receiver such as
a tipping container. For leg lengths greater
than 1400 mm, order part no 3004 steel tube.

Dimensions, Installation examples F 30000



F 30000 with part no 4706
Discharge Cone



F 30000 with part
no 4706 Discharge Cone
and 4612 Body Module

Discharge Arrangements Suitable for

F 8000, F 11000, F 20000, F 30000, S 11000, S 32000, S 34000, S 46000

+ Accessories S 11000, S 32000, S 34000 (Part No)

706801 Reduction Cone 400/160 mm
706701 Discharge Valve 160 mm - AC

70670100 Discharge Valve 160 mm - DC
 This automatically controlled, pneumatically actuated valve can discharge collected material from the separator when the system is at rest. It is used for discharge into an open container or conveyor. The material must have good flow characteristics.

7131 Counter Balance for Discharge Cone (Part No 4706)
 The rubber flap on the discharge cone is replaced with the counter balance flap. This unit will close when the system is under operation. When the system is at rest, collected material will be discharged into an open container. **Note:** only for use with suitable materials.

7370 Discharge Valve 250 mm - AC
737000 Discharge Valve 250 mm - DC
7341 Discharge Valve 400 mm - AC

734100 Discharge Valve 400 mm - DC
 This automatically controlled, pneumatically actuated valve can discharge collected material from the separator when the system is at rest. It is used for discharge into an open container or conveyor. The material must have good flow characteristics.

7461 Auto Foot Valve 470 mm - AC

746100 Auto Foot Valve 470 mm - DC
 This is an automatically controlled, pneumatically actuated foot valve that opens when the system is at rest. It is used for the discharge of materials into an open container and should be used only with materials that will flow.

7462 Counter Balance Foot Valve 470 mm. This arrangement replaces the standard cone and functions by closing

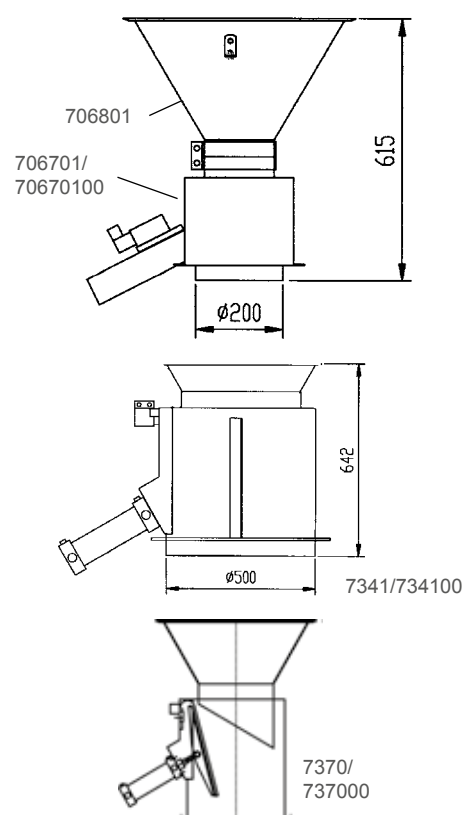
automatically when the system is in operation and releasing collected material when the system is at rest.
Note: only for use with suitable material.

741401 Manually actuated Intermediate Assembly
 In applications where the collected material receiving container is placed under system vacuum, this intermediate part is required to facilitate the easy removal of the waste container. It has a telescopic mating flange that is raised and lowered onto the container flange with two opposing eccentric locking mechanisms.

743200 Pneumatically actuated Intermediate Assembly
 The identical telescopic function and application to part no 741401 but actuated pneumatically rather than manually. The pneumatic cylinders can be controlled manually with a part no 8040 or with an automated control.

Part no 743200 does not include the actuator, this must be determined during the control design and ordered separately.

Discharge Valves



Optional configurations

In certain applications, automatic discharge during operation can be achieved by using a peristaltic airlock. Collected material can be discharged into a Big Bag.

Continuous Discharge Arrangements Suitable for

F 8000, F 11000, F 20000, F 30000, S 11000, S 32000, S 34000, S 46000

Peristaltic Airlock for Discharge of Dust from Filter Cyclone and Pre-Separator

Continuous discharge of material during operation can be achieved by installing two valves in series with an intermediate receiver. The material must be of such a nature that it flows easily.



Technical data

	Ø 160	Ø 250	Ø 400
Volume of receiver	12 l/3.17 gal	110 l/29 gal	190 l/50 gal
Air Consumption/cycle (5 bar/2.5 psi)	5 l/1.3 gal	15 l/3.96 gal	60 l/15.85 gal
Solenoids 24 V DC	2 pcs	4 pcs	4 pcs
Service interval	1 year	1 year	1 year

(Single shift operation)



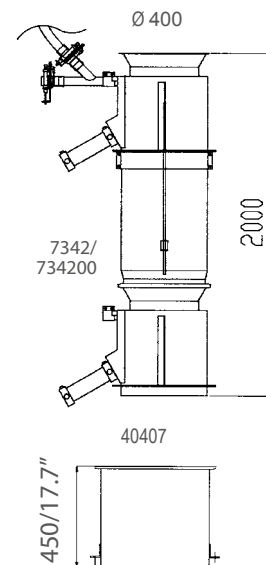
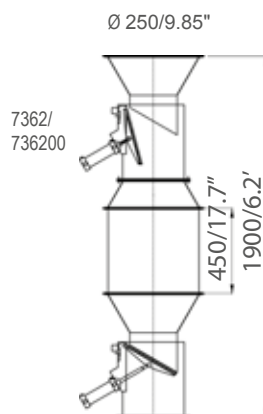
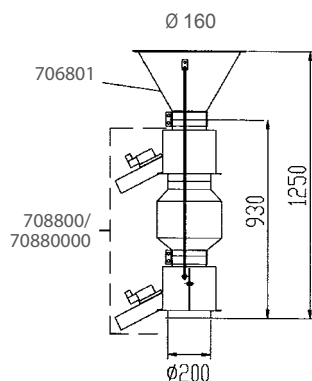
Accessories (Part No)

- 40407** Storage Module, V=140 l
- 706801** Reduction Cone, 400/160 mm
- 708800** Peristaltic Airlock, 160 mm - AC
- 7342** Peristaltic Airlock, 400 mm - AC
- 734200** Peristaltic Airlock, 400 mm - DC
- 7362** Peristaltic Airlock, 250 mm - AC

736200 Peristaltic Airlock, 250 mm - DC
This airlock consists of two 400 mm discharge valves and auto shutter valves for pressure compensation of the valves. The airlock is delivered complete with a control solenoid block. The lower discharge valve must be guyed and unweighted to the chassis or legs.

70880000 Peristaltic Airlock, 160 mm - DC
The Peristaltic Airlock 160 mm is delivered complete with solenoid valves for actuation. A separate control must be selected.

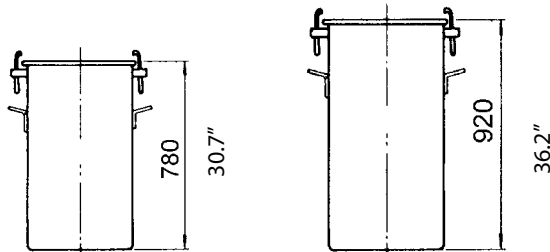
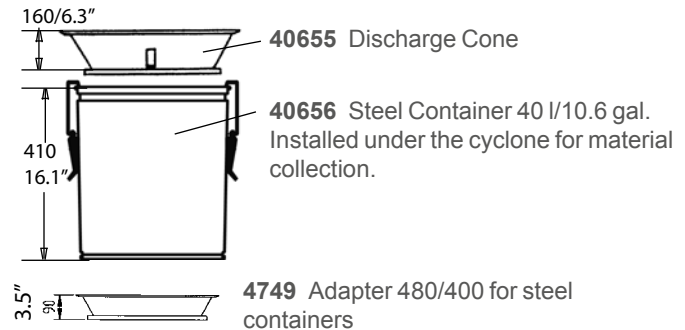
Dimensions, Installation examples



Small Containers

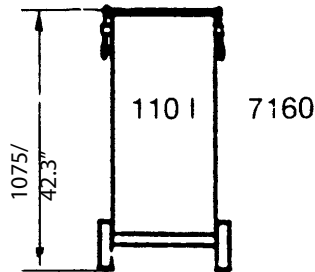
The steel collection containers are mounted directly under the cyclone by using part no 4749 Adapter. Consider always the weight of the collected material and plan emptying of the container at suitable intervals.

Note: installation of part no 7160 requires lengthened legs on the F 20000 and F 30000.



7066 Steel Container 90 l/23.8 gal.

7159 Steel Container 110 l/ 29 gal, with Collection Bag.
7368 Steel Container, 75 l, with Collection Bag.



7160 Steel Container 110 l/ 29 gal. Portable with Collection Bag.

7368 Steel Container, 75 l. Portable with Collection Bag.



4714 Collection Bag, 50 pcs for part no 7159 , 7160 and 7368.

42111 Collection Bag, 50 pcs, antistatic for part no 7159, 7160 and 7368.



Small Container



Accessories Small Containers (Part No)

- 40655** Discharge Cone for container
- 40656** Steel Container
- 42111** Collection Bag, 50 pcs, antistatic for part no 7159, 7160 and 7368
- 4714** Collection Bag, 50 pcs for part no 7159, 7160 and 7368
- 7066** Steel Container 90 l/23.8 gal.
- 7159** Steel Container 110 l/ 29 gal with Collection Bag
- 7160** Steel Container 110 l/29 gal. Portable with Collection Bag
- 7368** Steel Container, 75 l
- 7433** Adapter 442/11000 Module

Tipping Containers 0,6 m³, 1,1 m³, 2,5 m³

Tipping containers are sealed to the cyclone bottom cone with an intermediate connection and adapter. Material is continuously collected in the container. A widening chassis must be used to install the cyclone to accommodate the width of the container.

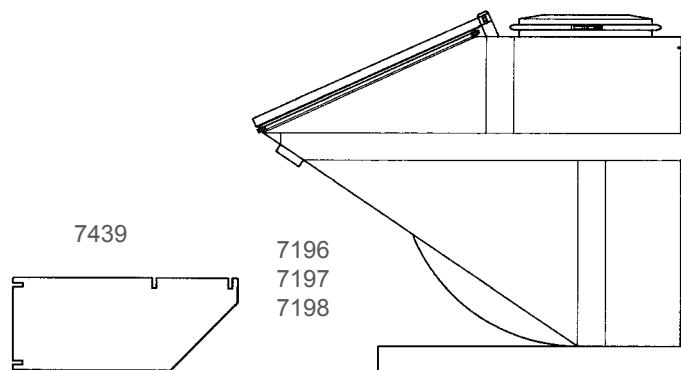
Tipping containers can be used as inertial separators by equipping the container with a divider plate and installing inlet/outlet connections on the container's rear wall. Inertial separation is particularly suited to the separation of larger quantities of coarse material.

The divider baffle, 7439, is installed internally in the container between the inlet and outlet. The containers are tip-dump style and should be handled with a forklift truck. These containers can be equipped with casters.



Tipping Container

Part No	Capacity
7196	0.6 m ³ /0.78 yd ³
7197	1.1 m ³ /1.44 yd ³
7198	2.5 m ³ /3.27 yd ³
7439	Divider Baffle



Accessories Large Containers (Part No)

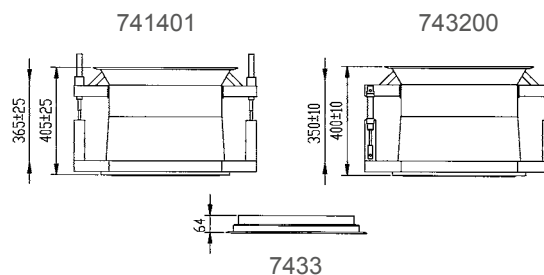
743200 Automatic Intermediate Connection

Secured automatically in the down position by two pneumatic cylinders when the container is present. Can be controlled with a manual pneumatic valve, part no 8040 or by an optional automatic control.

7433 Adapter 442/11000 Module

741401 Manual Intermediate Connection

Secured with two eccentric locks that are locked down when the container is present.



Tipping Containers 0,6 m³, 1,1 m³, 2,5 m³



Technical data

	m ³ /yd ³ (Collection volume)	m ³ /yd ³ (Filling volume)	kg (Volume)	kPa (Max-neg pressure)	A	B	C	E	F	G	H	J	K	L
7196	0.6/0.78	0,3/0.39	240	40	100	1076	X160	300	730	935	1180	200	1250	1590
7197	1.1/1.44	0,6/0.78	350	40	100	1096	X160	300	730	1050	1295	200	1550	1800
7198	2.5/3.27	1,3/1.7	570	40	100	1276	X160	300	730	1225	1470	200	1550	2180



Accessories for Tipping Containers (Part No)

7448 Cyclone Top

To increase separation efficiency, a cyclone top can be installed on the tipping container. The container then functions as a cyclone separator with a large storage volume for collected material. Suitable air-flows are between 400–800 m³/h.

7404 Caster Set (4 pcs),
max. 1600 kg

7422 Caster Set (4 pcs),
max. 2200 kg

7434 Container Guide Rails

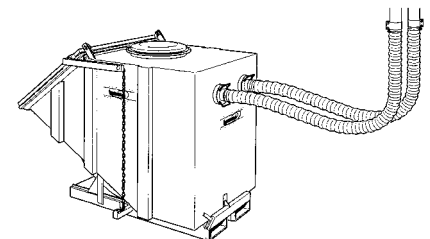
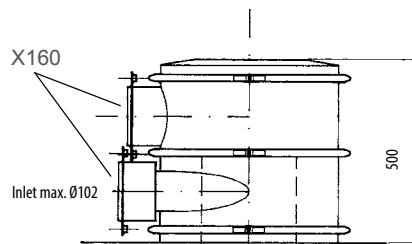
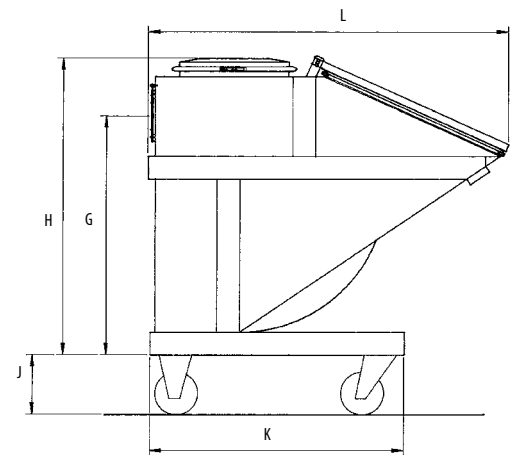
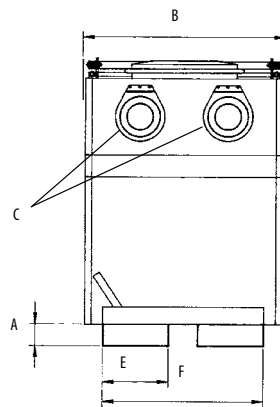
These rails should be anchored to the floor using sleeve or wedge anchors (20 required).

7436 Hose Nipple, 76/X160

7437 Hose Nipple, 102/X160

7438 Hose Nipple, 152/X160

Accessories; bottom screen, drain cock and level sensing available by special order.



7436



7437



7438



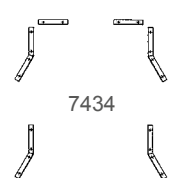
When the container is configured as an inertial separator, two hoses are connected to the rear wall of the container. Material is separated with inertial action as air entering the container changes direction abruptly.



Airflow, m ³ /h	Hose, Ø mm	Type, m ³
250-500	76	0.6; 1.1; 2.5
400-900	102	1.1; 2.5
900-2000	152	2.5



7404
7422



7434

Large Containers

By installing inlet/outlet connections on larger containers (4-20 m³) an efficient inertial separator is built. Separation and containment of extracted waste directly in a closed container is a desirable handling method for a variety of reasons. Among these is that the system remains closed and that the handling of the waste can be done both rationally and economically.

These containers can also be used as discharge arrangements for cyclones – direct connection from the separator mounted over the container.

A vacuum waste container is an integral part of the extraction system and must be designed for the negative pressure.

Different regions and waste handlers will have different handling systems, the illustrations below show several different prevalent variations.

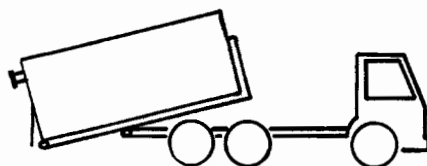
The exact type and dimensions of that type are often determined in cooperation with the contracted waste handler. Dustcontrol can build your bespoke container.

The following factors will have a bearing on the selection of container type:

- 1) Tipping cost.
- 2) Tipping in a pcser truck or removal.
- 3) Distance to tipping site.
- 4) Density and weight of the separated material.
- 5) Permits required for dumping of collected material (degree of hazard classification).
- 6) Time for removal of container and the need for two containers.
- 7) Physical placement of the container, is it accessible for the handling truck?



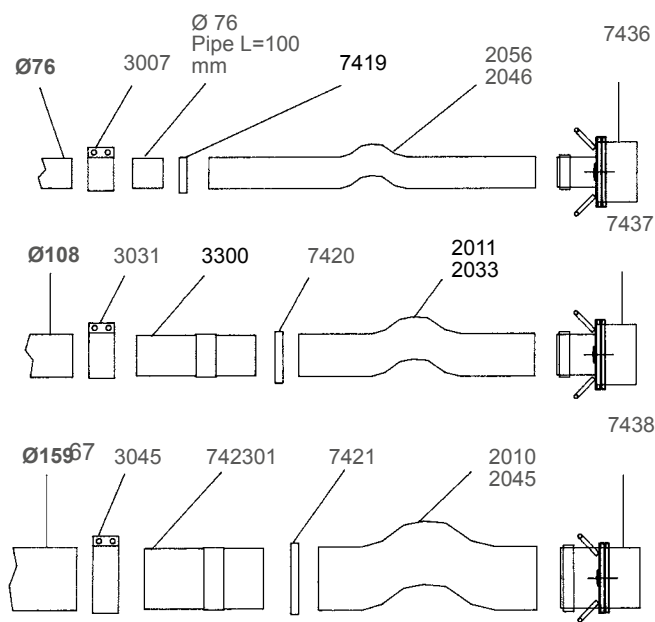
Lugger Lift



Roll Off Container

+ Accessories for Large Containers (Part No)

2010	Suction Hose 152, std
2011	Suction Hose 102, std
2033	Suction Hose 102 extra abrasion resistant
2045	Suction Hose 152 extra abrasion resistant
2046	Suction Hose 76 extra abrasion resistant
2056	Suction Hose 76 PU
3007	Joint Ø 76
3031	Joint Ø 108
3045	Joint Ø 160
3300	Pipe fitting 108/102
7404	Wheel Set, 4 wheels
7419	HD Hose Clamp 76
7420	HD Hose Clamp 102
7421	HD Hose Clamp 160
7422	Wheel Set 2,5 m ³
742301	Pipe fitting 160/152
7436	Hose fitting 76/X160
7437	Hose fitting 102/X160
7438	Hose fitting 152/X160
7448	Cyclone Top



Optional accessories: Bottom grate, drain valve, tip sensor and level sensor, can be specially ordered.



Dustcontactor

STOLL

1000 kg