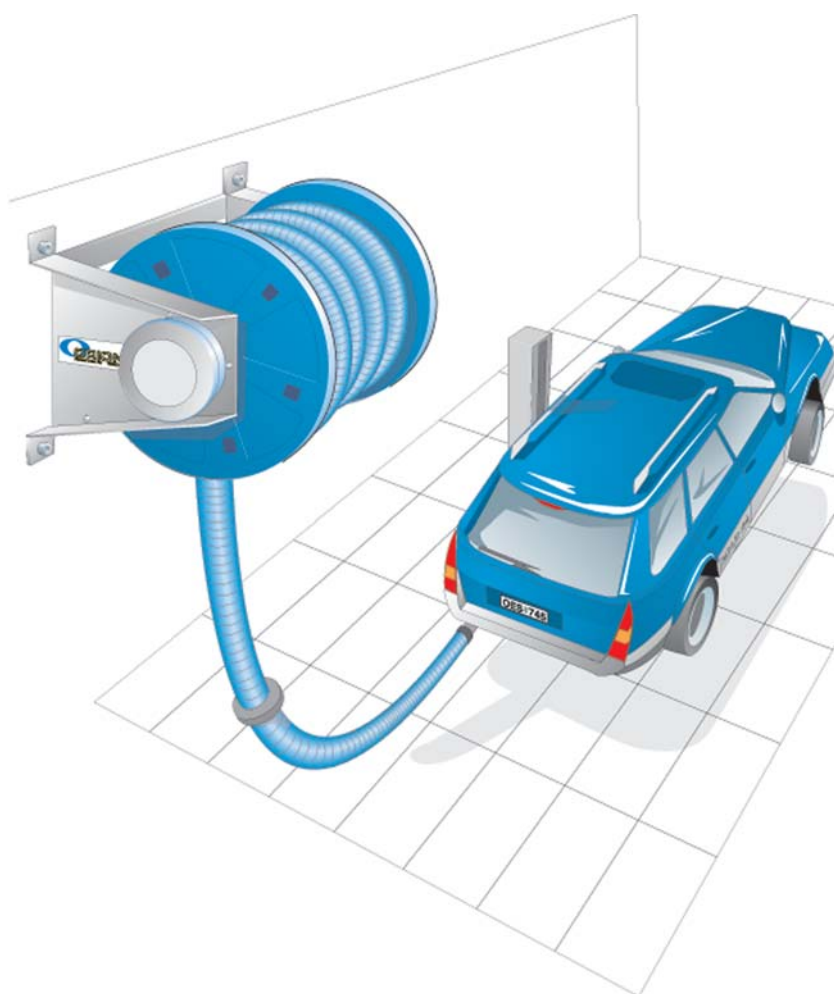


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Information, Exhaust Extraction

Rules and Regulations

Whenever an internal combustion engine is run, those in the immediate vicinity will be exposed to dangerous exhaust fumes. In the limited space that is typical of the vehicle workshop or service station, as well as in loading bays at distribution centres, these fumes can present a major health hazard for the work force.

In recent years the long time effects of vehicle exhaust gas on the human body have become well documented. As a consequence most countries now have laws and regulations governing the permissible levels of exhaust fumes in the workshop and also recommendations as to how this problem should be tackled.

Swedish recommendations, for example, require that the vehicle exhaust fumes should be extracted directly from the exhaust pipe through hoses and ducting connected to an extractor fan. Airflows are also specified.

They are at present:

For cars:	360 m ³ /h
For lorries, trucks, buses:	1080 m ³ /h

In countries where no regulations exist, specifically for exhaust extraction, there are, nevertheless, limits for various pollutants usually expressed in parts per million (PPM).

Where extractor fans are located outside the building, the system inside the building will normally be under negative pressure or suction. Where a fan is installed indoors the associated ducting must be leak proof so there can be no escape of fumes.

Guide values for airflow

Cars = 360 m³/h
 Lorries = 1080 m³/h
 Air velocity in ducting: 10 - 15 m/s

Dimensioning of Fans and Hoses

Generally speaking most users prefer small diameter hoses because they are easier to handle. As the required airflow is known, a fan should be selected according to the pressure drop in the hose. As a basic rule, the smaller the diameter of the hose chosen, the more powerful the fan required will need to be and vice versa. The length of the hose is also an important factor, since this has a direct effect on pressure drop. It will be seen from this that for any given work shop a suitable compromise needs to be found.

In theory a decrease in hose diameter of 50% will correspond to a four-fold increase in flow velocity which in turn leads to a sixteen-fold increase in pressure drop. Since the power consumption of the fan motor is proportional to the pressure it follows that the fan would need to be increased by sixteen times. As a result of this, best practice indicates that hoses less than 75 mm in diameter for cars and 125 mm for lorries should not be selected. In normal circumstances use 100 mm for cars and 150 mm for trucks.

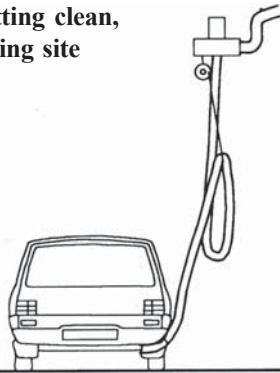
Experience has also shown that the nominated flow rate of 1080 m³/h is insufficient when heavy trucks, construction machinery, large farm vehicles, military vehicles etc. or longer periods of running at high engine RPM are undertaken. In these cases it will be necessary to choose larger hose and ducting diameters in order to avoid excessively large fans.

Guide values for airflow**Hose dimension:**

Ø 75 mm at airflow < 270 m³/h
 Ø100 mm at airflow < 540 m³/h
 Ø125 mm at airflow < 810 m³/h
 Ø150 mm at airflow < 1080 m³/h

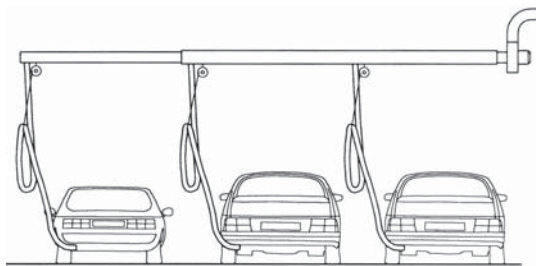
Information, Exhaust Extraction

Different ways of getting clean, fresh air at the working site



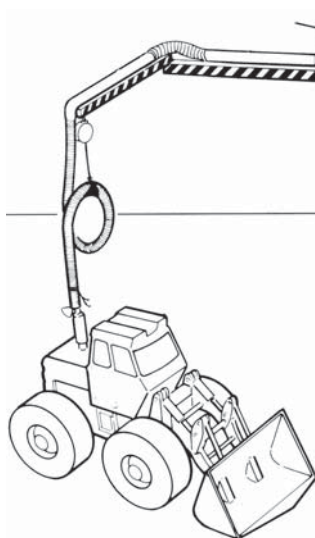
Hose and fan

A simple solution for exhaust problems in smaller workshops. The system consists of a single hose and a nozzle connected to a fan. With a balancer the hose is kept lifted from the floor. The fan is manually switched on and the exhaust duct can go through the wall or roof of the building.



More hoses and one fan

In bigger workshops the extractors can be connected to a central ducting fitted with a stronger fan. This solution is suitable when the extracted air volume can be regarded as part of the ordinary air change.



Extractors mounted on swinging arms

A solution i.e. when extraction takes place during short driving distances or when the extraction unit must cover a wide floor area. The exhaust hose is connected to a central ducting or to a fan mounted on the swinging arm. There are 4 different arm lengths from 3 - 8 meters available.

Exhaust Hose Reels

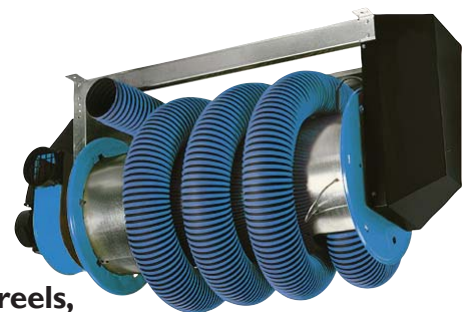
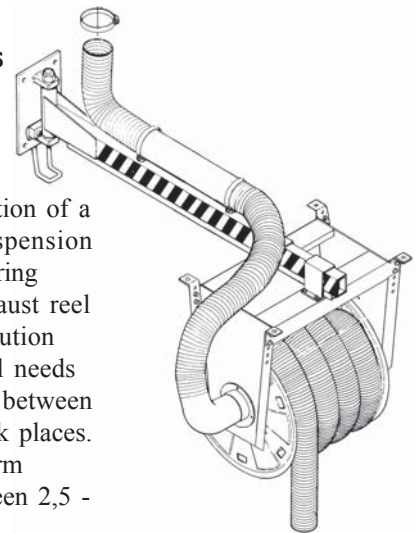
Hose reels, spring operated

Exhaust hose reels provide a simple and cost effective way to take care of exhaust fumes and long, cumbersome hoses.

Exhaust hoses are wound on their drums when not in use but are always handy when needed. The reels take up little space and can be mounted on ceilings or walls. A flexible and economical solution for vehicle repair shops with fixed work stations.

Hose reels on swinging arms

The combination of a swinging suspension arm and a spring operated exhaust reel is a good solution when the reel needs to be moved between different work places. There are 3 arm lengths between 2,5 - 4,5 meter.



Exhaust reels, power operated

The power driven exhaust reel is an excellent solution when the emphasis is on accessibility and flexibility. In places with high ceilings where overhead cranes are in use, the power driven exhaust reel is the answer.

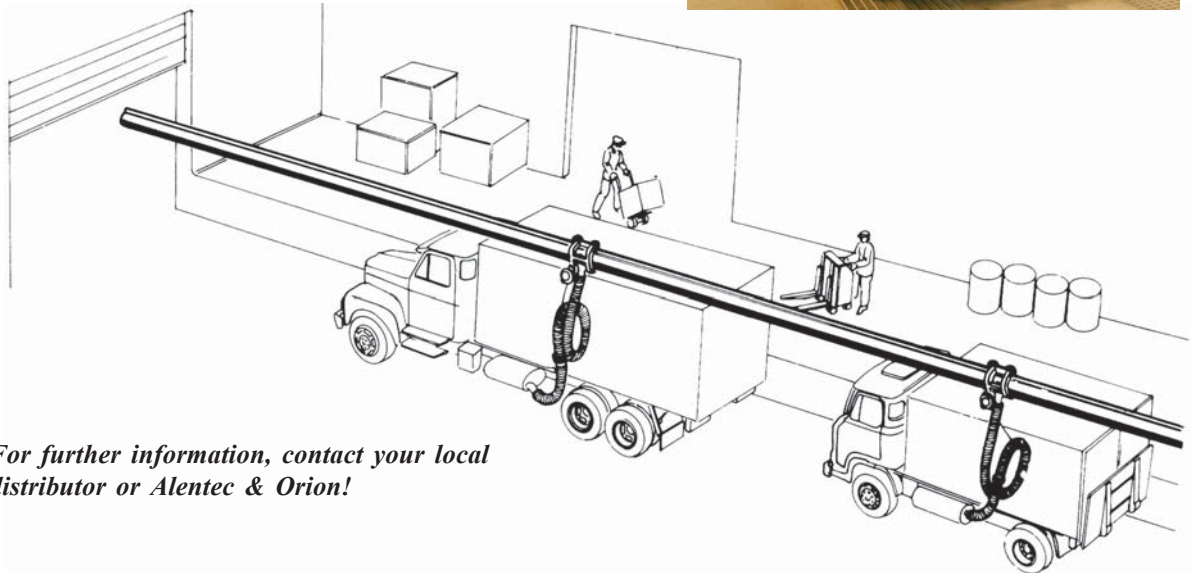
The reel is operated using a separate, ergonomically designed control box or an external, freely suspended switch box.

Special Exhaust Products

Straight Exhaust Rails

Straight rails solve the exhaust emission problem with vehicles being driven along a straight section indoors. The system comprises of exhaust hoses mounted on moving connectors which run along a suction rail fitted to the ceiling. The rail can be adapted to suit various needs and can be extended to almost any length. Standard lengths are from 6 m up to 90 m (in 3 m module lengths).

The moving connectors can be supplied for internal or external travel, with or without automatic uncoupling of the nozzle.



For further information, contact your local distributor or Alentec & Orion!

Basic Exhaust Extraction

Part.No

Fixed Exhaust Extractors

A fixed exhaust extractor is easily designed by selecting hose, nozzle, hose support, balancer and hose clamps. For suitable hoses and nozzles, see previous pages. Balancer, see below.

A

Hose supports make it possible to hang the hose on a balancer.

Description	For hose diam.	Part.No
Support	ø100 mm (4")	88441
Support	ø150 mm (6")	88442

B

Hose clamps are used to fix the hose directly on to the ducting.

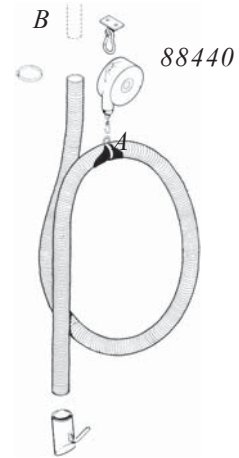
Description	For hose diam.	Part.No
Hose clamp	ø100 mm (4")	72101011
Hose clamp	ø150 mm (6")	72101021

C

Balancer

This balancer supports loads (7-14 kg) within an area of 0-3 m and at an angle of max 30° from the plumb line. The balancer is equipped with a locking device which locks the extension wire in the extended position. The locking device disengages when the wire is pulled out approx. 0,2 m and then released. Max. load 14 kg. Wire length 3 m. Temperature range -10°C to +60°C.

Delivered complete with safety chain and spring safety hooks. 88440



Nozzle see following pages.



Complete Exhaust Extraction Kits

Consisting of a fan, 5 m standard hose and balancer. Just add the required nozzle.

Description	Hose dim.	Fan	Part.No
Kit for Cars	75 mm (3")	0,37 kW - 1 300 m³/h	FEF 5 75
Kit for Cars	100 mm (4")	0,37 kW - 1 300 m³/h	FEF 5 100
Kit for Trucks	125 mm (5")	0,75 kW - 2 100 m³/h	FEF 5 125
Kit for Trucks	150 mm (6")	0,75 kW - 2 100 m³/h	FEF 5 150



Spring Operated Exhaust Reels

General information

Exhaust reels are controlling exhaust gas fumes and prevent extraction hoses from trailing over the workshop floor. The exhaust reels take up a small space and can be mounted to the ceiling or on a wall. A flexible and economic solution for workshops with fixed working areas. The manually operated exhaust reel works with a spring recoil system. Pull the hose and it will stay at the required height; pull it once more and it will return to the initial position. The hose stop is set to the required height when returning the hose to the reel. The reels are available for various hose sizes and can often service more than one work place.

Advantages

- Need minimum space - handles large working areas
- Simple and cost efficient exhaust extraction
- A flexible solution for fixed working areas
- Very long life under normal running conditions

Description

Spring operated exhaust reels are delivered with a ceiling or wall mounting bracket. Suitable for 5 m, 7,5 m or 10 m hose length in diameters 75 mm (3"), 100 mm (4"), 125 mm (5") or 150 mm (6") and temperature resistant from +150°C (standard) up to +650°C.

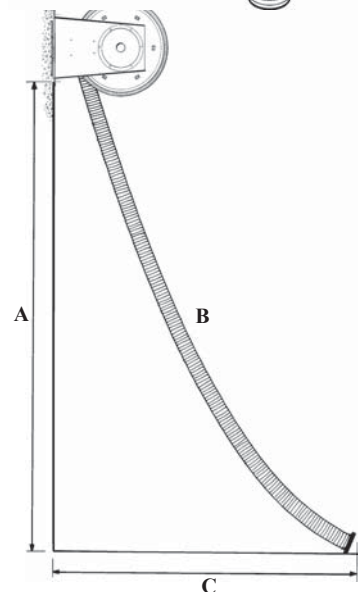
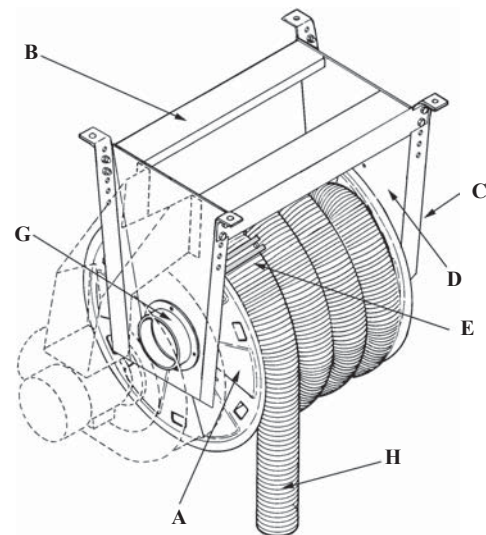
Construction

- A Zinc coated sheet metal drum complete with painted sheet metal end plates.
- B Base plate, painted sheet metal.
- C Spring casing with double springs of high grade spring steel.
- D Latch, locking the hose at required position. The hose will be released at next pull.
- E Hose stop. Positioned for suitable height at return.
- F Hose guide, controls the hose during first revolution of drum.
- G Conn. adapter ø 160 mm for fan or central extraction.
- H Hose. 5 m, 7,5 m or 10 m Diameters 75 mm (3"), 100 mm (4"), 125 mm (5") or 150 mm (6") and temperature resistant from 150 (standard) up to 650°C.

NB! Hose, hose connecting kit and nozzle must be ordered separately! See accessories.

Reach

A=Mounting height			B=Hose length			C=Max reach	
A	B	C	B	C	B	C	
2,5 m	5,0 m	3,5 m					
3,0 m	5,0 m	3,2 m	7,5 m	6,2 m			
3,5 m	5,0 m	2,6 m	7,5 m	5,9 m	10,0 m	8,5 m	
4,0 m	5,0 m	1,9 m	7,5 m	5,5 m	10,0 m	8,3 m	
4,5 m			7,5 m	5,2 m	10,0 m	8,0 m	
5,0 m			7,5 m	4,7 m	10,0 m	7,7 m	
5,5 m					10,0 m	7,4 m	



Spring Operated Exhaust Reels

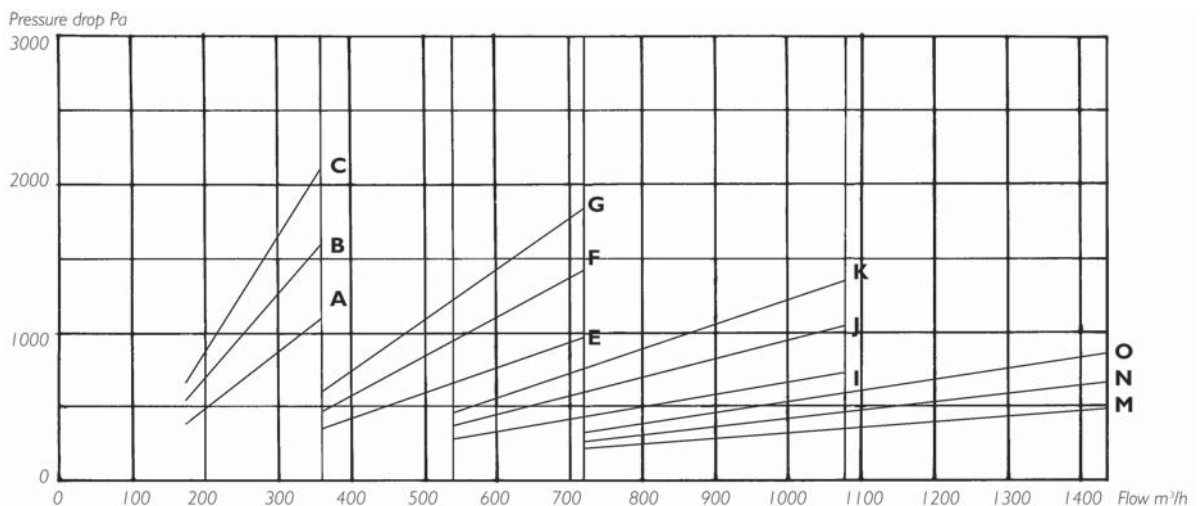
Pressure Drop

The diagram shows the pressure drop in exhaust reels with different air flows. Use the following recommended air flows when using the diagram:

Cars 100 l/s = 360 m³/h
 Lorries 300 l/s = 1080 m³/h

The curves show these combinations of exhaust reel/hose diameter/hose length:

Curve	Description	Hose diameter and length
A	Spring operated reel	ø75 mm, 5 m
B	Spring operated reel	ø75 mm, 7,5 m
C	Spring operated reel	ø75 mm, 10 m
E	Spring operated reel	ø100 mm, 5 m
F	Spring operated reel	ø100 mm, 7,5 m
G	Spring operated reel	ø100 mm, 10 m
I	Spring operated reel	ø125 mm, 5 m
J	Spring operated reel	ø125 mm, 7,5 m
K	Spring operated reel	ø125 mm, 10 m
M	Spring operated reel	ø150 mm, 5 m
N	Spring operated reel	ø150 mm, 7,5 m
O	Spring operated reel	ø150 mm, 10 m



Recommended air velocity in ducting: 10-15 m/s.

Hose dimension:

ø 75 mm at air flow	< 270 m ³ /h
ø 100 mm at air flow	< 540 m ³ /h
ø 125 mm at air flow	< 810 m ³ /h
ø 150 mm at air flow	< 1080 m ³ /h

Spring Operated Exhaust Reels

Part.No

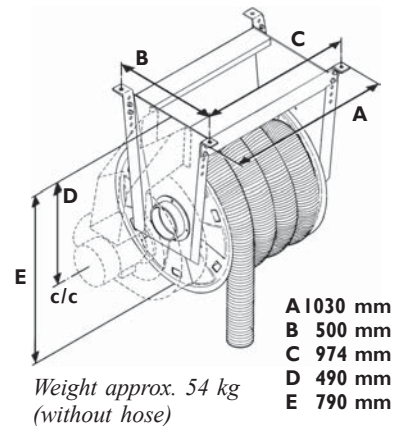
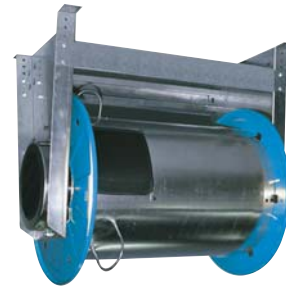
Spring Operated Exhaust Reel for max. 10m ø150 mm Hose (6")

For mounting on the ceiling or on the wall. Connecting adapter ø 160mm for fan or central exhaust system included. Max. hose capacity 10m ø 150mm hose. For selection of hose mounting kit, hose, nozzle, fan etc., see following pages.

Description	Hose dimension	Length	Part.No
Exhaust reel without hose	N/A	N/A	84300

Complete reels with hose (+150°C). Just add a nozzle. Nozzles, see page 136.

Description	Hose dimension	Length	Part.No
Exhaust reel for Small Trucks	125 mm (5")	10 metres	84302
Exhaust reel for Trucks	150 mm (6")	10 metres	84303



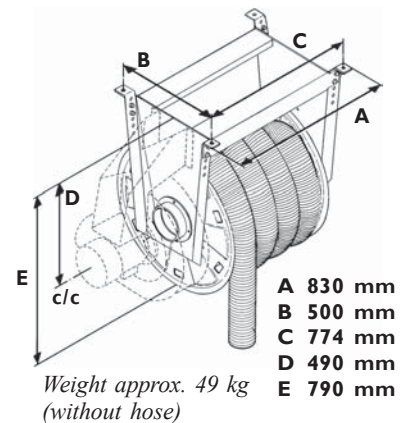
Spring Operated Exhaust Reel for max. 10m ø100 mm Hose (4")

For mounting on the ceiling or on the wall. Connecting adapter ø 160mm for fan or central exhaust system included. Max. hose capacity 10m ø100 mm (4") hose. For selection of hose mounting kit, hose, nozzle, fan etc., see following pages.

Description	Hose dimension	Length	Part.No
Exhaust reel without hose	N/A	N/A	84305

Complete reels with hose (+150°C). Just add a nozzle. Nozzles see page 136.

Description	Hose dimension	Length	Part.No
Exhaust reel for Cars	75 mm (3")	5 metres	84306
Exhaust reel for Small Trucks/Cars	100 mm (4")	5 metres	84307
Exhaust reel for Small Trucks/Cars	100 mm (4")	7,5 metres	84308
Exhaust reel for Trucks	125 mm (5")	5 metres	84309



Electric Driven Exhaust Reels

Part.No

Electric Driven Exhaust Reel for max. 10m ø150 mm Hose (6")

For mounting on the ceiling or on the wall. Connecting adapter ø 160mm for fan or central exhaust system included. Max. hose capacity 10m ø 150mm hose. For selection of hose mounting kit, hose, nozzle, fan etc., see following pages. 1 phase 220-240 V, 50 Hz.

Description	Hose dimension	Length
Electric Exhaust reel without hose	N/A	N/A

83105

Complete reels with hose (+150°C). Just add a nozzle. Control box included. Delivered unassembled.

Description	Hose dimension	Length
Electric Exhaust reel with hose for Trucks	125 mm (5")	10 meter
Electric Exhaust reel with hose for Trucks	150 mm (6")	10 meter

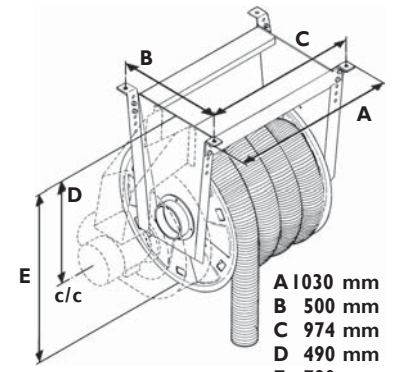
83106
83107

Control Box

For control of electric driven Exhaust Hose Reels.



83005



A 1030 mm
B 500 mm
C 974 mm
D 490 mm
E 790 mm

Weight approx. 56 kg
(without hose)

Electric Driven Exhaust Reel for max. 10m ø100 mm Hose (4")

For mounting on the ceiling or on the wall. Connecting adapter ø 160mm for fan or central exhaust system included. Max. hose capacity 10m ø100 mm (4") hose. For selection of hose mounting kit, hose, nozzle, fan etc., see following pages. 1 phase 220-240 V, 50 Hz.

Description	Hose dimension	Length
Exhaust reel without hose	N/A	N/A

83102

Complete reels with hose (+150°C). Just add a nozzle. Control box included. Delivered unassembled.

Description	Hose dimension	Length
Electric Exhaust reel with hose for Cars	100 mm (4")	10 meter
Electric Exhaust reel with hose for Trucks	125 mm (5")	7,5 meter

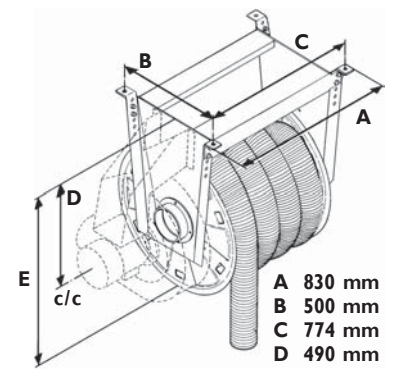
83103
83104

Control Box

For control of electric driven Exhaust Hose Reels.



83005



A 830 mm
B 500 mm
C 774 mm
D 490 mm
E 790 mm

Weight approx. 51 kg
(without hose)

Exhaust Hoses

Part.No

Hose Mounting Kits

To connect the exhaust hose to the reel a mounting kit must be used. The kit consists of a hose adapter, two hose clamps, hose stop and hose guide.

For hose diameter

ø 75 mm (3")

ø100 mm (4")

ø125 mm (5")

ø150 mm (6")

88300

88301

88302

88303



Exhaust Hoses

Hose diameter	Length	150°C			
		Standard	200°C	300°C	650°C
ø 75 mm (3")	5 m	88330	88335	88445	88645
ø100 mm (4")	5 m	88340	88345	88450	88470
ø125 mm (5")	5 m	88350	88355	88455	88475
ø150 mm (6")	5 m	88360	88365	88460	88480
ø 75 mm (3")	7,5 m	88333	88336	88446	88466
ø100 mm (4")	7,5 m	88343	88346	88451	88471
ø125 mm (5")	7,5 m	88353	88356	88456	88476
ø150 mm (6")	7,5 m	88363	88366	88461	88481
ø 75 mm (3")	10 m	88331	88337	88447	88467
ø100 mm (4")	10 m	88341	88347	88452	88472
ø125 mm (5")	10 m	88351	88357	88457	88477
ø150 mm (6")	10 m	88361	88367	88462	88482
ø 75 mm (3")	12,5 m	88334	88338	88448	88468
ø100 mm (4")	12,5 m	88344	88348	88453	88473
ø125 mm (5")	12,5 m	88354	88358	88458	88478
ø150 mm (6")	12,5 m	88364	88368	88463	88483

Note! A mounting kit must be used to connect the hose to the reel (see above). Approx. 0,5 m of the total hose length will be used inside the reel.



Exhaust Hose, Heavy Duty

The hose is crush proof with nylon coil incl. one straight adapter and two hose clamps (temp. resistant +150°C).

Hose diameter

ø 75 mm (3")

ø100 mm (4")

ø125 mm (5")

ø150 mm (6")

Length

2,5 m

2,5 m

2,5 m

2,5 m

88332

88342

88352

88362



Exhaust Hose, Heavy Duty

The hose is crush proof with nylon coil incl. one Y-adapter and two hose clamps (temp. resistant +150°C).

Hose diameter

ø 75 mm (3")

ø100 mm (4")

ø125 mm (5")

ø150 mm (6")

Length

2x2,5 m

2x2,5 m

2x2,5 m

2x2,5 m




88210

88211

88212

88213



Exhaust Hose Connecting Kits and Nozzle		Part.No										
<p>Hose Connecting Kits</p> <p>To connect hoses with the same diameter. The kit consists of a hose adapter and two hose clamps.</p>												
<p>For hose diameter</p> <p>ø75mm (3")</p> <p>ø100mm (4")</p> <p>ø125mm (5")</p> <p>ø150mm (6")</p>		 <p>88485</p> <p>88486</p> <p>88487</p> <p>88488</p>										
<p>Safety Disconnect Coupling</p> <p>The safety disconnect coupling is to protect your equipment from unexpected work place events, such as when a service technician forgets to remove the exhaust hose from the vehicle before moving it. The safety disconnect coupling will automatically separate to protect the vehicle and your exhaust system.</p>												
<table border="0"> <thead> <tr> <th>Description</th> <th>Hose diameter</th> </tr> </thead> <tbody> <tr> <td>Safety disconnect coupling</td> <td>75 mm</td> </tr> <tr> <td>Safety disconnect coupling</td> <td>100 mm</td> </tr> <tr> <td>Safety disconnect coupling</td> <td>125 mm</td> </tr> <tr> <td>Safety disconnect coupling</td> <td>150 mm</td> </tr> </tbody> </table>	Description	Hose diameter	Safety disconnect coupling	75 mm	Safety disconnect coupling	100 mm	Safety disconnect coupling	125 mm	Safety disconnect coupling	150 mm		 <p>88490</p> <p>88491</p> <p>88492</p> <p>88493</p>
Description	Hose diameter											
Safety disconnect coupling	75 mm											
Safety disconnect coupling	100 mm											
Safety disconnect coupling	125 mm											
Safety disconnect coupling	150 mm											
<p>Exhaust Funnel</p> <p>For simple, fast and accurate exhaust fume readings. The adjustable exhaust funnel is placed behind the vehicle exhaust pipe in order to capture and remove exhaust fumes. The exhaust fume readings are entirely resistance free and cooling air reduces the temperature. To be used with ø150 mm hoses and nozzles.</p>												
<table border="0"> <thead> <tr> <th>Description</th> <th>Opening facing exhaust pipe</th> </tr> </thead> <tbody> <tr> <td>Exhaust funnel</td> <td>200 x 230 mm</td> </tr> </tbody> </table>	Description	Opening facing exhaust pipe	Exhaust funnel	200 x 230 mm		 <p>88395</p>						
Description	Opening facing exhaust pipe											
Exhaust funnel	200 x 230 mm											

Exhaust Nozzles

Part.No

Rubber Nozzles, General information

A rubber nozzle is used to connect the exhaust hose with the exhaust system of the vehicle. The nozzle is designed to take in cooling air, thereby reducing the exhaust fume temperature and resistance in the exhaust system and guaranteeing the accuracy of exhaust readings.

These nozzles are highly suitable for use with fixed extractors, exhaust reels and straight rails (clamp fixing essential).

Specifications

The rubber nozzle is composed of moulded, high temperature resistant rubber. The nozzle is provided with an opening (which can be sealed with a rubber plug) suitable for insertion of an exhaust probe, diameter $\varnothing 20$ mm. The nozzle is designed for today's lorries, private cars and especially vehicles with twin exhaust pipes. The nozzle is attached to the exhaust hose via an angled pipe so as to facilitate connection to the exhaust pipe of the vehicle.
Temperature resistance: -40°C to $+220^{\circ}\text{C}$

Rubber Nozzle with Probe Opening and Clamp Fixing

Description	Hose diameter	Nozzle opening	Part.No
Rubber nozzle	$\varnothing 75$ mm	155x90 ($\varnothing 115$ mm)	88320
Rubber nozzle	$\varnothing 100$ mm	155x90 ($\varnothing 115$ mm)	88324
Rubber nozzle	$\varnothing 100$ mm	210x115 ($\varnothing 160$ mm)	88321
Rubber nozzle	$\varnothing 125$ mm	210x115 ($\varnothing 160$ mm)	88322
Rubber nozzle	$\varnothing 150$ mm	210x115 ($\varnothing 160$ mm)	88323

**Rubber Nozzle with Probe Opening and Damper**

Description	Hose diameter	Nozzle opening	Part.No
Rubber nozzle	$\varnothing 75$ mm	155x90 ($\varnothing 115$ mm)	88315
Rubber nozzle	$\varnothing 100$ mm	155x90 ($\varnothing 115$ mm)	88316
Rubber nozzle	$\varnothing 100$ mm	210x115 ($\varnothing 160$ mm)	88317
Rubber nozzle	$\varnothing 125$ mm	210x115 ($\varnothing 160$ mm)	88318
Rubber nozzle	$\varnothing 150$ mm	210x115 ($\varnothing 160$ mm)	88319

**Rubber nozzle with Probe Opening, Damper and Clamp Fixing**

Description	Hose diameter	Nozzle opening	Part.No
Rubber nozzle	$\varnothing 75$ mm	155x90 ($\varnothing 115$ mm)	88325
Rubber nozzle	$\varnothing 100$ mm	155x90 ($\varnothing 115$ mm)	88326
Rubber nozzle	$\varnothing 100$ mm	210x115 ($\varnothing 160$ mm)	88327
Rubber nozzle	$\varnothing 125$ mm	210x115 ($\varnothing 160$ mm)	88328
Rubber nozzle	$\varnothing 150$ mm	210x115 ($\varnothing 160$ mm)	88329

**Rubber nozzle with Probe Opening, Spring Fixing**

Description	Hose diameter	Nozzle opening	Part.No
Rubber nozzle	$\varnothing 75$ mm	155x90 ($\varnothing 115$ mm)	88520
Rubber nozzle	$\varnothing 100$ mm	155x90 ($\varnothing 115$ mm)	88521
Rubber nozzle	$\varnothing 100$ mm	210x115 ($\varnothing 160$ mm)	88522
Rubber nozzle	$\varnothing 125$ mm	210x115 ($\varnothing 160$ mm)	88523
Rubber nozzle	$\varnothing 150$ mm	210x115 ($\varnothing 160$ mm)	88524

**Metal Nozzle with Rubber Lid and Probe Opening**

Description	Hose diameter	Nozzle opening	Part.No
Metal nozzle	$\varnothing 75$ mm	$\varnothing 100$ mm	88310
Metal nozzle	$\varnothing 100$ mm	$\varnothing 100$ mm	88311
Metal nozzle	$\varnothing 125$ mm	$\varnothing 125$ mm	88312
Metal nozzle	$\varnothing 125$ mm	$\varnothing 150$ mm	88313
Metal nozzle	$\varnothing 150$ mm	$\varnothing 150$ mm	88314



Starter, Control Units

Part.No

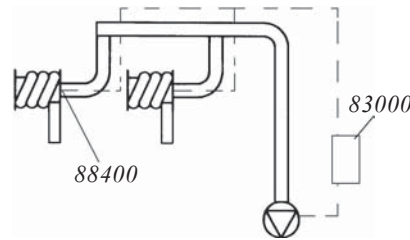
Starter

For automatic start and stop of the fan when one or two exhaust reels are installed. Used together with a micro switch (88400). Comes complete with built-in contactor and transformer. It must be fitted with relevant motor overload protector (not included), see next page.

Description
Starter

Power supply
3~ 230/400 V

83000



Control Unit

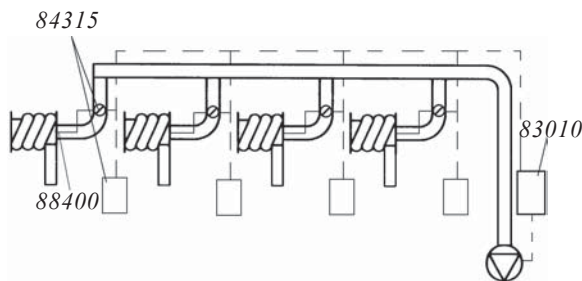
For automatic damper and fan control in systems with one or more exhaust reels. It is used with micro switch (88400) and can be combined with automatic damper (84315). Delay time approx. 15 sec.

The built-in contactor must be equipped with an overload protector, not included, see next page, sized according to the central fan used.

Description
Control unit

Power supply
3~ 230/400 V

83010



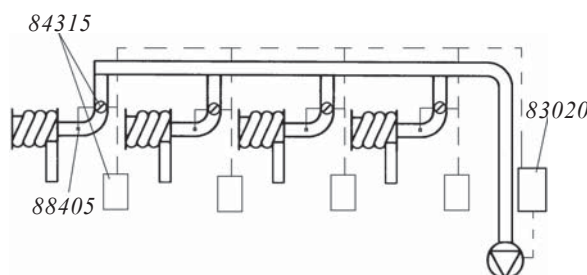
Control Box


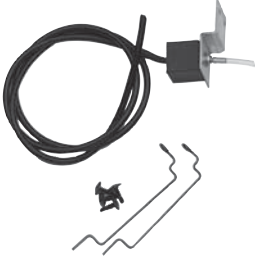


Fully automatic control box for operation of the fan. The fan can be controlled manually or by using the pressure sensor (88405). It can also be combined with automatic damper (84315). Adjustable over run period of 7 sec. to 6 min. Built-in contactor must be equipped with suitable overload protector (not included), see next page.

Description
Control box

Power supply
3~ 230/400 V

83020



Damper, Sensor, Micro Switch, Overload	Part.No	
<p>Automatic Damper Fully automatic, motorised damper, Ø 160 mm, with built - in energy saver. Adjustable delay 7 sec. to 6 min. Can also be controlled manually if fitted with a switch assembly (88400).</p> <p>Description Automatic damper</p> <p>Power supply 1~ 230 V</p>	84315	
<p>Pressure Sensor Sensor for start of fan. Senses any pressure change in ducts when a vehicle starts up. Intended for use with control box</p> <p>Description Pressure sensor, on/off</p>	88405	
<p>Micro Switch Used for control of damper and fan in spring operated exhaust reels. This device can be used with starter (83000) or automatic damper (84315) and control unit (83010).</p> <p>Description Micro switch</p>	88400	
<p>Motor Overload Protector The rating of the protector depends on which fan is used.</p> <p>Description Overload, 1,0 - 2,9 A Overload, 3,7 - 12,0 A Overload, 12,0 - 32,0 A</p>	88426 88427 88428	
<p>Fan starter with push-button. To be used when no automatic start or controll units are used. Mounted in a plastic-encased box.</p> <p>Description Motorstarter IP55 w. overload 1,0 - 1,6 A 230 - 690 VAC Motorstarter IP55 w. overload 1,6 - 2,5 A 230 - 690 VAC Motorstarter IP55 w. overload 2,5 - 4,0 A 230 - 690 VAC Motorstarter IP55 w. overload 4,0 - 6,3 A 230 - 690 VAC Motorstarter IP55 w. overload 6,3 - 10,0 A 230 - 690 VAC Motorstarter IP55 w. overload 10,0 - 16,0 A 230 - 690 VAC</p>	84245 84246 84247 84248 84249 84250	
<p>Frequency Inverter The DCV-Controller will operate your process ventilation by monitoring the air pressure of your system. The DCV-Controller will only run the fans to meet the demand of your production and do it automatically.</p> <p>Description DCV Controller 1,1 KW , PID regulator, EMC-filter, 380 - 460 V DCV Controller 2,2 KW , PID regulator, EMC-filter, 380 - 460 V DCV Controller 4,0 KW , PID regulator, EMC-filter, 380 - 460 V DCV Controller 5,5 KW , PID regulator, EMC-filter, 380 - 460 V DCV Controller 7,5 KW , PID regulator, EMC-filter, 380 - 460 V Pressure sensor (0-2500 Pa)</p>	84370 84371 84372 84373 84374 83015	

Extraction Arms

Part.No

Extraction Arms

Ball-bearing jointed extraction arms for dust, welding fumes, soldering fumes, oil mist, fumes from solvents etc. Delivered complete with wall mounting bracket on which the fan may be directly fitted. A $\varnothing 160$ mm spigot for connection to a central duct work system is also provided. The detachable hood with manual damper and safety mesh can be angled 110° forwards, backwards and to the sides. A 20W/24V halogen lamp cartridge (88430) can be fitted in the hood.

Description

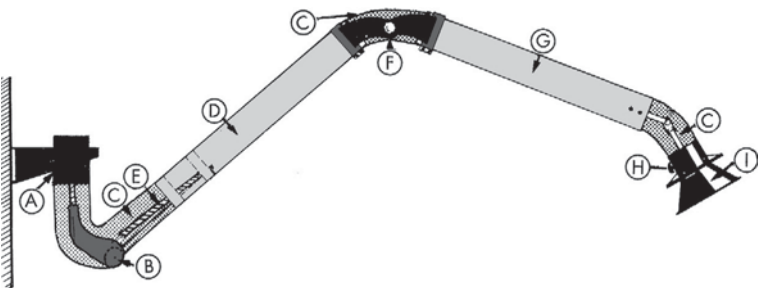
- Extraction arm 2 m
- Extraction arm 3 m
- Extraction arm 4 m

- 84400
- 84402
- 84405









Construction

- A Ball-bearing mounting bracket with $\varnothing 160$ mm inlet spigot,
- B Inner arm pivot with friction pad tension adjustment.
- C Flame resistant hose made of PVC coated woven Polyamide with internal steel spiral.
- D Aluminium inner arm.
- E Tension support spring.
- F Externally adjustable joint.
- G Aluminium outer arm.
- H Universal joint with hood collar and shut-off damper.
- I Sheet metal hood with safety mesh and quick-fit coupling and ring handle. Hood opening $\varnothing 300$ mm.



For accessories, see next page.



Accessories; Extraction Arms	Part.No	
<p>Halogen Lamp Cartridge To be fitted in the hood. Consists of 20W/24V halogen lamp, switch assembly and 10 m cable.</p> <p>Description Halogen lamp cartridge</p>	88430	
<p>Transformer Transformer for halogen lamp cartridge (88430), 230V/24 V, 75 W.</p> <p>Description Transformer</p>	88431	
<p>Automatic Damper Fully automatic, motorised damper, Ø 160 mm., Adjustable delay 7 sec. to 6 min. Inductive sensor clamp with 5 m cable included. Can also be controlled manually if used with switch assembly.</p> <p>Description Power supply Automatic damper 1~ 230 V</p>	84317	
<p>Starter For manual start and stop of the fan via a switch in the hood. Comes complete with switch assembly and 10 m cable, built-in contactor and transformer. It must be fitted with relevant motor overload protector (not included), see page 138.</p> <p>Description Power supply Starter 3~ 230/400 V</p>	83000	
<p>Control Unit For automatic start or stop of central fan in a system with several extractors. To be used in conjunction with energy saver (83022) or automatic damper (84317). The built-in contactor must be equipped with a motor overload protector (not included), see page 138, sized according to the central fan used.</p> <p>Description Power supply Control unit 3~ 230/400 V</p>	83010	
<p>Energy Saver For automatic start/stop of the fan. Adjustable over run period between 7 sec. to 6 min. Incl. inductive sensor clamp with 5 m cable and transformer 75VA/24V for light. Built-in contactor should be equipped with suitable motor overload protector (not included), see page 138.</p> <p>Description Power supply Energy saver 3~ 230/400 V</p>	83022	

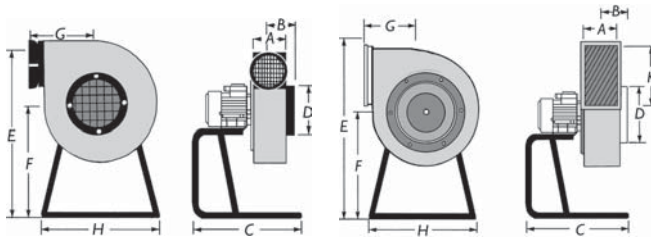
Fans

Part.No

Fans for Exhaust and Fumes

Delivered with tubular support (84320-84330). Models 84320-84325 can be mounted directly to exhaust hose reels with the aid of a mounting kit (88410), see below.

Description	Free flow capacity	Power supply	Rated current	Output	Part.No
Fan	1400 m ³ /h	3~ 230/400 V, 50 Hz	1,0-1,1 A	0,37 kW	84320
Fan	1800 m ³ /h	3~ 230/400 V, 50 Hz	1,4-1,5 A	0,55 kW	84323
Fan	2160 m ³ /h	3~ 230/400 V, 50 Hz	1,9-2,0 A	0,75 kW	84325
Fan	3000 m ³ /h	3~ 230/400 V, 50 Hz	2,5-2,7 A	1,1 kW	84330



Dimensions in mm

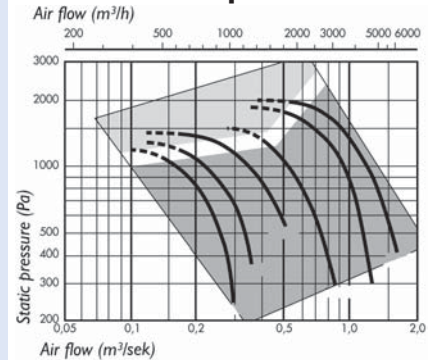
A	B	C	D	E	F	G	H	K	Weight	Part.No
ø160	95	430	ø160	650	415	245	445	-	15,6 kg	84320
ø160	95	430	ø160	650	415	245	445	-	16,4 kg	84323
ø160	95	430	ø160	660	425	245	445	-	19,4 kg	84325
142	110	450	ø250	740	410	230	445	215	24,0 kg	84330

Rough recommendations

Beside each respective fan you can see our rough recommendations for the fan.

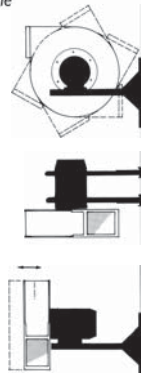
Vehicle	Max	no.	Hose Dim	Hose length
Cars	< 2		100 mm	7,5 m
Cars	< 3		100 mm	7,5 m
Trucks	1		150 mm	10 m
Cars	< 4		100 mm	7,5 m
Trucks	1		150 mm	12,5 m
Cars	< 5		100 mm	10 m
Trucks	< 2		150 mm	10 m

Pressure Drop Chart



- Recommended working range
- Critical working range
- Fans unsuitable

The universal support offers numerous mounting options.

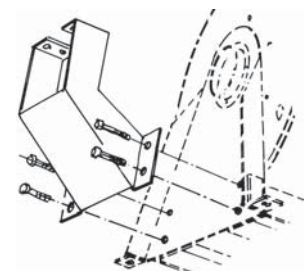


Fan Mounting Kit

For mounting of fans 84320-84325 directly on exhaust reels. Consists of bracket, rubber ring and fan socket. **NB! The standard tubular support should be removed.**

Description
Fan mounting kit

88410



Fans

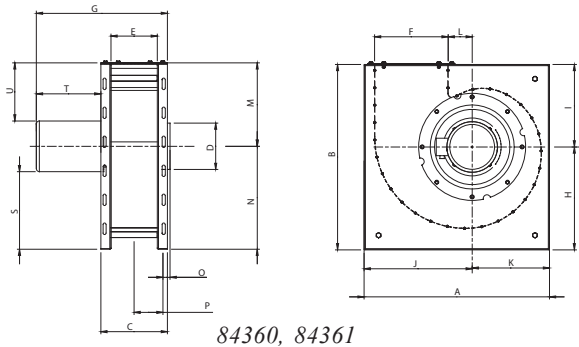
Part.No

Fans

A series of robust fans, generally designed for extended systems of exhaust hose reels, straight rails and fume extractors. Can also be used for general ventilation and similar tasks.

Stand, fan housing are made in steel and fan wheels are made of aluminium. Suitable to be used with frequency converter.

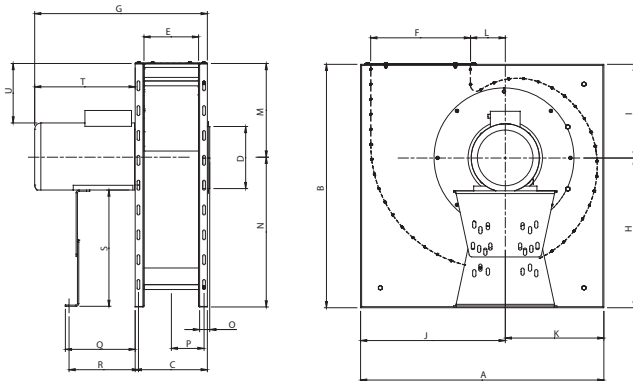
Free flow capacity	Power supply	Output	Part.No
2500 m ³ /h	3~ 220/380 V	0,75 kW	84360
5500 m ³ /h	3~ 220/380 V	2,2 kW	84361
7500 m ³ /h	3~ 220/380 V	4,0 kW	84362
12000 m ³ /h	3~ 220/380 V	7,5 kW	84364



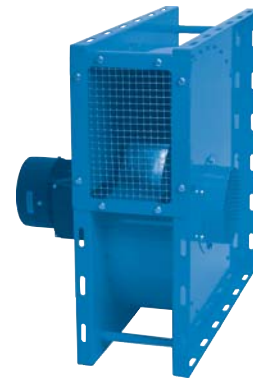
84360, 84361

Measures

A	B	C	D	E	F	G	H	I	J	K	Weight	Part.No
640	640	230	160	160	254	453	355	288	373	267	31 kg	84360
785	785	270	200	200	322	535	444	341	475	310	51 kg	84361
980	980	290	250	220	402	695	603	377	583	397	78 kg	84362
1100	1100	320	320	250	448	805	621	479	653	447	137 kg	84364



84362, 84364



Pressure Drop Chart

