

# Product manual

## Spring operated

### Exhaust Reels

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Thank you for buying this PlymoVent product. Before you take it out of its box and start to use it, please read this product manual and follow the instructions carefully.

THIS MANUAL SHOULD BE HANDED OVER AND KEPT  
BY THE SERVICE DEPARTMENT AFTER THE INSTALLATION!



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# Spring operated exhaust reels

TO ACHIEVE OPTIMUM PERFORMANCE AND SAFETY, PLEASE READ THIS MANUAL CAREFULLY BEFORE USE!

Exhaust reels from PlymoVent 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 spring operated exhaust reel works according to the roller blind principle. Pull the hose and it will stay at the required height; pull it once more and it will return to the initial position. The reels are available for various hose sizes and can often service more than one work place.

## Advantages

- No extraction hoses trailing over the workshop floor.
- Needs minimum space – handles large working area.
- Very long life span under normal running conditions.
- Great energy savings by accessories for automatic damper control.
- Easy to handle; pull down the hose to required length – pull it once more to roll up.

## Delivery

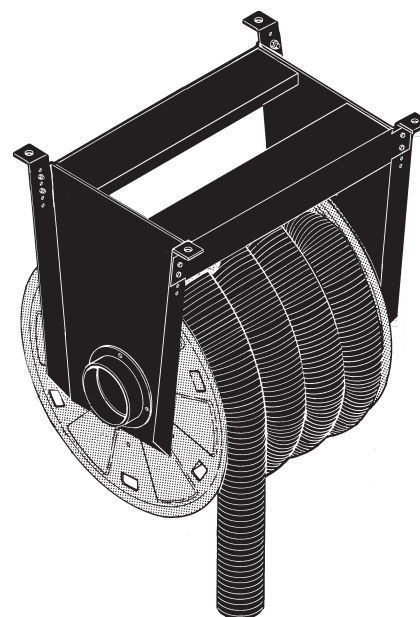
The spring operated exhaust reel is delivered complete with a ceiling or wall mounting bracket. Adapted for 5, 7.5 or 10 m hose lengths in diameters of 75, 100, 125 or 150 mm and temperature resistant from 150°C to 650°C.

Note! Hose and nozzle must be ordered separately.

See sep. product description.

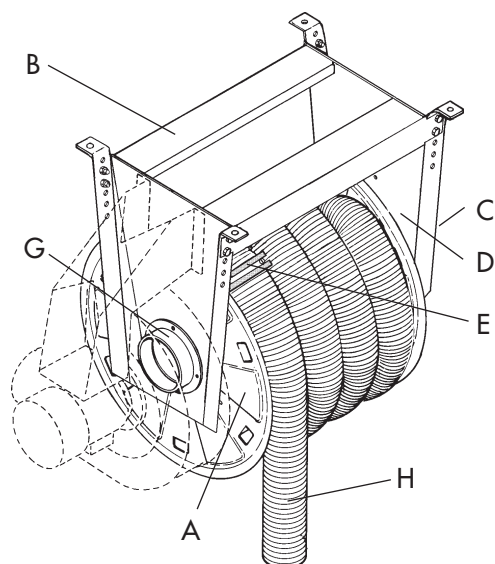
There are two alternatives; either with a fan (FUA-1300 or FUA-2100) or for connection with a central exhaust system.

NOTE: PRODUCT LIABILITY BY PLYMOVENT IS ONLY APPLICABLE IF THE EQUIPMENT HAS NOT BEEN ALTERED OR ADDED TO, OTHER THAN WITH THE WRITTEN CONSENT OF PLYMOVENT AB.



Note!  
Hose and nozzle must be ordered separately.

## Contraction



### Spring operated exhaust reel:

With or without fan.

- A. Zinc coated drum with attached end plates of lacquered metal sheet.
- B. Stand made of profiled, lacquered metal sheet.
- C. Spring set with double springs of first class spring steel.
- D. Pawl, locking the hose in required position. The hose will be released at next pull.
- E. Stop. Positioned for adequate height at return.
- F. Hose guide, som styr slangen under första varvet.
- G. Adapter Ø160 mm to fan or central exhaust system.
- H. Hose. 5, 7,5 or 10 m flexible hose in diameters Ø 75, 100, 125, 150 mm. Temperature resistant from 150 to 650°C continuously.

Note! Hose must be ordered separately.

# Technical Data/Safety Information

## Technical data:

Power supply: 230/400 V (L1, L2, L3, N and earthed)  
Frequency: 50 Hz  
Output Fan Model 1300: 0,37 kW  
Output Fan Model 2100: 0,75 kW  
Serial No.:

Rated current:  
Rated current:

## Safety Information:

### Technical data spring operated exhaust reel

(Complete with ceiling/wall mounting. Without hose and nozzle).

Prod. no.	Hose Ø mm	Hose length (m)	Con- nection Ø mm	Weight kg	Air-vo- lume m <sup>3</sup> /h	Fan	Fan Motor kW	Voltage V	Max. Hose capacity m	Max. Spring capacity kg
Without fan										
SER-650-75	75	5, 7.5, 10	160	49*	–	–	–	–	10	
SER-650-100	100	5, 7.5, 10	160	49*	–	–	–	–	10	
SER-850-125	125	5, 7.5, 10	160	54*	–	–	–	–	10	
SER-850-150	150	5, 7.5, 10	160	54*	–	–	–	–	10	
With fan										
SERF-650-75	75	5, 7.5, 10	160	62*	370**	FUA-1300	0,37	400, 3-fas	10	
SERF-650-100	100	5, 7.5, 10	160	62*	520**	FUA-1300	0,37	400, 3-fas	10	
SERF-850-125	125	5, 7.5, 10	160	70*	925**	FUA-2100	0,75	400, 3-fas	10	
SERF-850-150	150	5, 7.5, 10	160	70*	1200**	FUA-2100	0,75	400, 3-fas	10	

\* Weight without hose.

\*\* Measured without fall of pressure at compression side.

**Be careful when operating the exhaust reel so as to avoid damage to persons and property!**

**Warning!** Hoses and nozzles may be hot.

**Warning!** The spring housing contains a powerful spring and must not be opened. Be careful when servicing the reels. If doubtful on procedures, please contact PlymoVent technical support.

IF ANCILLARY CONTROL EQUIPMENT ARE USED, THEN THE ELECTRIC CONTROL BOX MAY ONLY BE OPENED BY AN AUTHORISED ELECTRICIAN.

## Operating the exhaust reel:

The spring operated exhaust reel works according to the "blind" principle, ie. pull the hose to lock into required position and when pulled a second time it will be rolled up on the reel.

The hose stopper is set to required height when returning the hose to the reel.

# Pressure Loss Calculation

## Pressure Loss Calculation

The fall of pressure in a air duct system or in a hose is mainly determined by the air velocity in that system. The higher the velocity is, the higher the pressure loss will be. And the higher the pressure loss is, the less air the fan will extract. The diagram 2 **Pressure loss chart for fans** is pointing out a suitable fan regarding the relationship between airflow ( $m^3/h$ ) and pressure loss (Pa). In a ventilation system with many extraction devices and long suction ducts the pressure loss can be kept down by increasing the size of the ducting and you will achieve an even velocity in the whole system. See Diagram 3 and 4.

### Recommended values Airflow:

Cars  $100 \text{ l/s} = 360 \text{ m}^3/h$ .  
Lorries  $300 \text{ l/s} = 1080 \text{ m}^3/h$ .

### Air velocity in ducting:

10-15 m/s.

### Hose dimension:

$\varnothing 75 \text{ mm}$  at airflow  $< 270 \text{ m}^3/h$   
 $\varnothing 100 \text{ mm}$  at airflow  $< 540 \text{ m}^3/h$   
 $\varnothing 125 \text{ mm}$  at airflow  $< 810 \text{ m}^3/h$   
 $\varnothing 150 \text{ mm}$  at airflow  $< 1080 \text{ m}^3/h$

## Pressure loss in exhaust reels

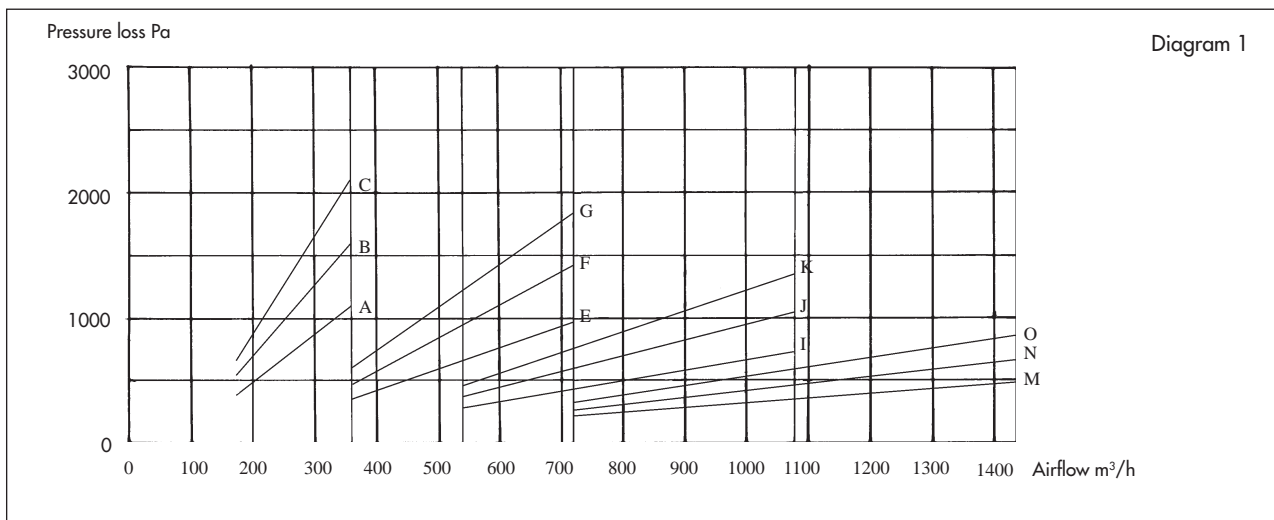
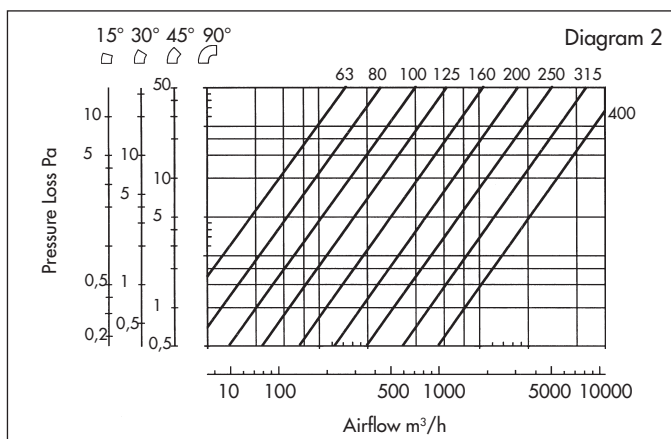


Diagram 1 shows the pressure loss in the exhaust reels at different airflows. Read the diagram at the recommended airflows;  
Cars  $100 \text{ l/s} = 360 \text{ m}^3/h$   
Lorries  $300 \text{ l/s} = 1080 \text{ m}^3/h$

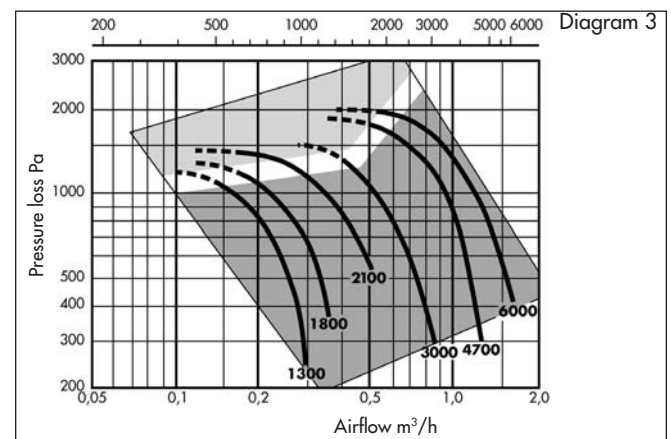
The curves show these combinations of exhaust reel/hose diameter/hose length\*:

- A.** Spring operated exhaust reel, hose  $\varnothing 75 \text{ mm}$ , 5 m.
- B.** Spring operated exhaust reel, hose  $\varnothing 75 \text{ mm}$ , 7.5 m.
- C.** Spring operated exhaust reel, hose  $\varnothing 75 \text{ mm}$ , 10 m.
- E.** Spring operated exhaust reel, hose  $\varnothing 100 \text{ mm}$ , 5 m.
- F.** Spring operated exhaust reel, hose  $\varnothing 100 \text{ mm}$ , 7.5 m.
- G.** Spring operated exhaust reel, hose  $\varnothing 100 \text{ mm}$ , 10 m.
- I.** Spring operated exhaust reel, hose  $\varnothing 125 \text{ mm}$ , 5 m.
- J.** Spring operated exhaust reel, hose  $\varnothing 125 \text{ mm}$ , 7.5 m.
- K.** Spring operated exhaust reel, hose  $\varnothing 125 \text{ mm}$ , 10 m.
- M.** Spring operated exhaust reel, hose  $\varnothing 150 \text{ mm}$ , 5 m.
- N.** Spring operated exhaust reel, hose  $\varnothing 150 \text{ mm}$ , 7.5 m.
- O.** Spring operated exhaust reel, hose  $\varnothing 150 \text{ mm}$ , 10 m.

## Resistance in air duct bends

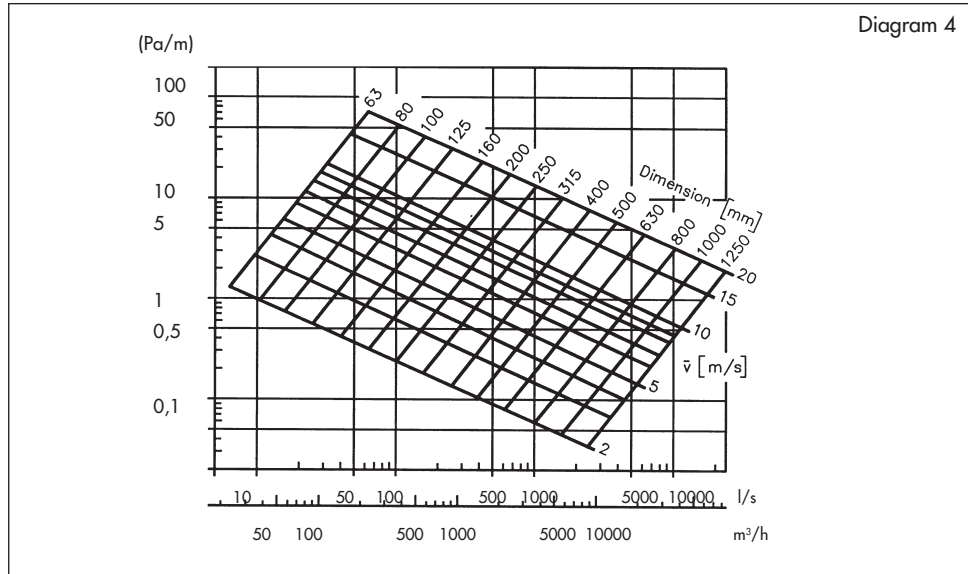


## Pressure loss chart for fans



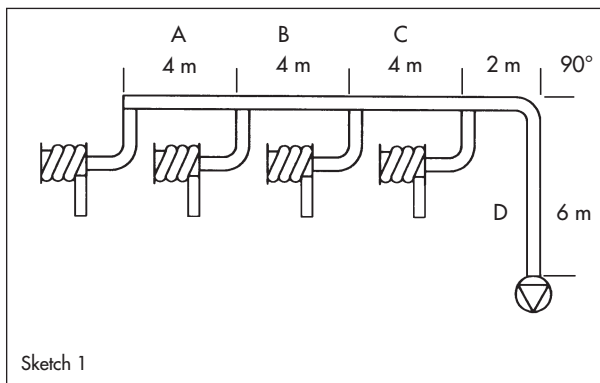
# Pressure Loss Calculation/Dimensioning

## Pressure loss in ducting



Pressure loss per meter ducting at different airflows and ducting diameters.

## Practical example



**1. Start by making a simple sketch of the position of the exhaust reels and the fan.** See sketch 1.

**2. Decide on the air volume in each part of the system.**

Recommended airflows:

Cars 360 m<sup>3</sup>/h

Lorries 1080 m<sup>3</sup>/h

In our example we choose 360 m<sup>3</sup>/h.

**3. Decide on the exhaust reels.**

In our example we choose spring operated exhaust reels with hose diameter 100 mm and hose length 10 m in order to tackle problems in, for instance, a car repair shop. See diagram 1.

The pressure loss in each exhaust reel will be (360 m<sup>3</sup>/h and Ø 100 mm) 750 Pa.

**4. Calculate the pressure loss and ducting diameter for each one of the sections A-D.** See sketch 2.

**Section A:** 360 m<sup>3</sup>/h.

See diagram 4. Supposing Ø160 mm and airflow 360 m<sup>3</sup>/h the pressure loss will be 2 Pa/m. 2 Pa/m \* 4 m = 8 Pa.

**Section B:** 360 m<sup>3</sup>/h + 360 m<sup>3</sup>/h = 720 m<sup>3</sup>/h.

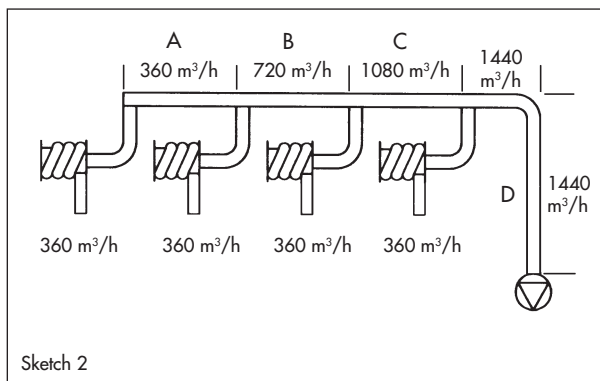
See diagram 4. Supposing Ø160 mm and airflow 720 m<sup>3</sup>/h the pressure loss will be 5,5 Pa/m. 5,5 Pa/m \* 4 m = 22 Pa.

**Section C:** 720 m<sup>3</sup>/h + 360 m<sup>3</sup>/h = 1080 m<sup>3</sup>/h.

See diagram 4. Supposing Ø 200 mm and airflow 1080 m<sup>3</sup>/h the pressure loss will be 4 Pa/m. 4 Pa/m \* 4 m = 16 Pa.

**Section D:** 1080 m<sup>3</sup>/h + 360 m<sup>3</sup>/h = 1440 m<sup>3</sup>/h.

See diagram 4. Supposing Ø 200 mm and airflow 1440 m<sup>3</sup>/h the pressure loss will be 6 Pa/m. 6 Pa/m \* (2 + 6) m = 48 Pa.



**5. Now look at the 90° bend in the system**

Bends will of course be the same diameter as the ducting adjoining them; here that is 200 mm. 1440 m<sup>3</sup>/h is to pass through the bend. See diagram 2. The pressure loss will be 25 Pa.

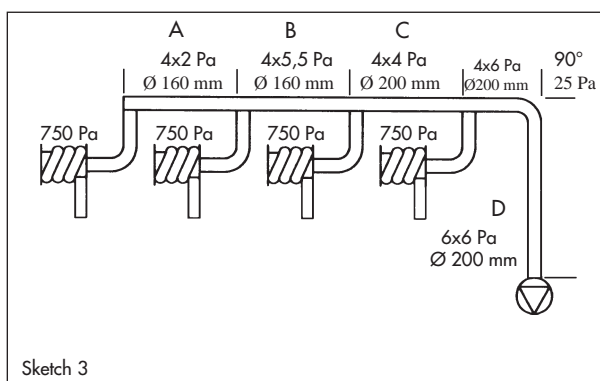
**6. Add all of the noted Pa-values**

(Hose reel) 750 Pa + (Section A) 8 Pa + (Section B) 22 Pa + (Section C) 16 Pa + (Section D) 48 Pa + (bend) 25 Pa = 869 Pa.

**7. Select your fan.**

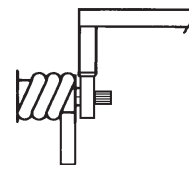
See diagram 2; Pressure loss chart for fans, and select a fan that meets your requirements of 1440 m<sup>3</sup>/h and 869 Pa.

The curve to the right of the intersection indicates the suitable fan; in this case FS-2100.

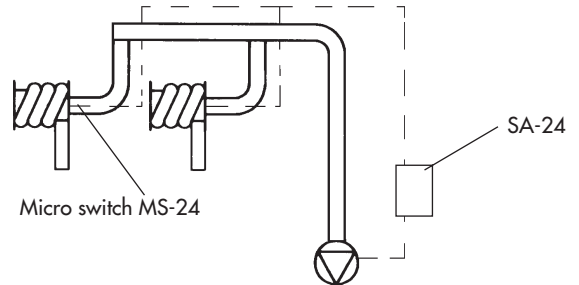


# System Solutions

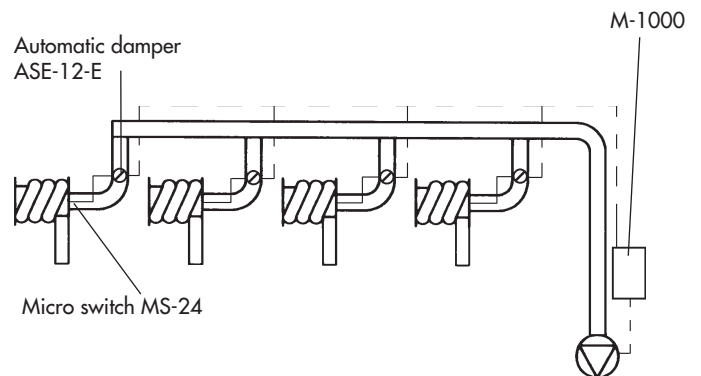
1. Spring operated exhaust reel with separate fan which is started and stopped manually using a key set.



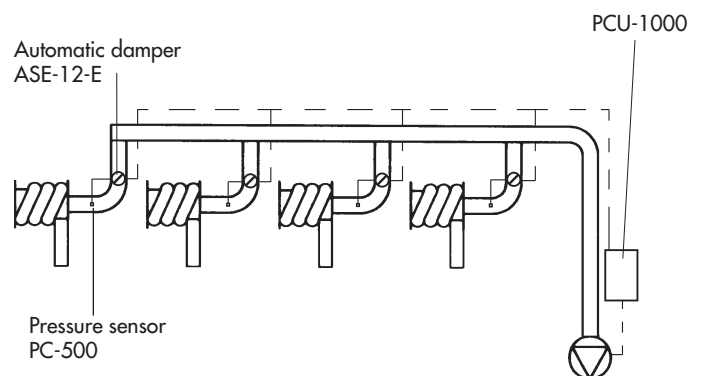
2. One or several exhaust reels can be connected with automatic starting of fan, using micro switches together with the starter device SA-24.



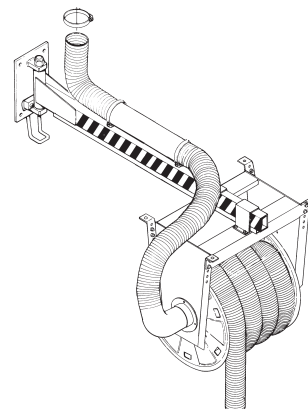
3. More than three exhaust reels equipped with automatic dampers and automatic fan starter. When using many exhaust reels a utilization factor of 0.25-0.50 is available which means that for example out of 12 hose reels  $0.25 \times 12 = 3$  exhaust reels will be in use simultaneously. By use of the automatic damper ASE-12 E the central fan can be dimensioned to fit smaller number of simultaneously used hose reels.



4. More than three reels with fully automatic damper and fan controls. The pressure sensor PC-500 control the automatic damper ASE-12-E as well as the PCU-1000 which in turn operated the central fan. The automatic damper in the active work place is opened when the PC-500 senses the pressure changes at the start-up of an engine and the PCU-1000 reacts via ASE-12-E and starts the fan.



5. Exhaust reel mounted on a swinging suspension arm. 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 workplaces. The exhaust reel can be connected to a central ducting or to a separate fan. The wall mounting bracket is prepared for the mounting of a fan.



## Complementary products and accessories

### Yellow/black exhaust hose (temp.resistant +150°C)

With steel coil.

Prod. no:	Hose-diameter	Length
EH-75-5	75 mm	5 m
EH-100-5	100 mm	5 m
EH-125-5	125 mm	5 m
EH-150-5	150 mm	5 m
EH-75-7.5	75 mm	7.5 m
EH-100-7.5	100 mm	7.5 m
EH-125-7.5	125 mm	7.5 m
EH-150-7.5	150 mm	7.5 m
EH-75-10	75 mm	10 m
EH-100-10	100 mm	10 m
EH-125-10	125 mm	10 m
EH-150-10	150 mm	10 m



### Silvergrey exhaust hose (temp.resistant +650°C)

With steel coil.

Prod. no:	Hose-diameter	Length
ET-75-5	75 mm	5 m
ET-100-5	100 mm	5 m
ET-125-5	125 mm	5 m
ET-150-5	150 mm	5 m
ET-75-7.5	75 mm	7.5 m
ET-100-7.5	100 mm	7.5 m
ET-125-7.5	125 mm	7.5 m
ET-150-7.5	150 mm	7.5 m
ET-75-10	75 mm	10 m
ET-100-10	100 mm	10 m
ET-125-10	125 mm	10 m
ET-150-10	150 mm	10 m



### Yellow/black exhaust hose (temp.resistant +200°C)

With steel coil.

Prod. no:	Hose-diameter	Length
EG-75-5	75 mm	5 m
EG-100-5	100 mm	5 m
EG-125-5	125 mm	5 m
EG-150-5	150 mm	5 m
EG-75-7.5	75 mm	7.5 m
EG-100-7.5	100 mm	7.5 m
EG-125-7.5	125 mm	7.5 m
EG-150-7.5	150 mm	7.5 m
EG-75-10	75 mm	10 m
EG-100-10	100 mm	10 m
EG-125-10	125 mm	10 m
EG-150-10	150 mm	10 m



### Crush-proof hose ends with nylon coil.

Straight- and Y-shaped adapters.

Prod. no:	Hose-diameter	Length
RS-75	75 mm	2,5 m
RS-100	100 mm	2,5 m
RS-125	125 mm	2,5 m
RS-150	150 mm	2,5 m
YS-75	75 mm	2x2,5 m
YS-100	100 mm	2x2,5 m
YS-125	125 mm	2x2,5 m
YS-150	150 mm	2x2,5 m



### Yellow/black exhaust hose (temp.resistant +300°C)

With steel coil.

Prod. no:	Hose-diameter	Length
EF-75-5	75 mm	5 m
EF-100-5	100 mm	5 m
EF-125-5	125 mm	5 m
EF-150-5	150 mm	5 m
EF-75-7.5	75 mm	7.5 m
EF-100-7.5	100 mm	7.5 m
EF-125-7.5	125 mm	7.5 m
EF-150-7.5	150 mm	7.5 m
EF-75-10	75 mm	10 m
EF-100-10	100 mm	10 m
EF-125-10	125 mm	10 m
EF-150-10	150 mm	10 m



### Rubber nozzle

Rubber nozzle with probe-opening.

Prod. no:	Hose-diameter	Nozzle-diameter
REN-75-115	75 mm	115 mm
REN-100-115	100 mm	115 mm
REN-100-160	100 mm	160 mm
REN-125-160	125 mm	160 mm
REN-150-160	150 mm	160 mm



### Rubber nozzle

Rubber nozzle with probe-opening and vise grip.

Prod. no:	Hose-diameter	Nozzle-diameter
REG-75-115	75 mm	115 mm
REG-100-115	100 mm	115 mm
REG-100-160	100 mm	160 mm
REG-125-160	125 mm	160 mm
REG-150-160	150 mm	160 mm



### Rubber nozzle

Rubber nozzle with probe-opening and spring clip.

Prod. no:	Hose-diameter	Nozzle-diameter
REC-75-115	75 mm	115 mm
REC-100-115	100 mm	115 mm
REC-100-160	100 mm	160 mm
REC-125-160	125 mm	160 mm
REC-150-160	150 mm	160 mm



## Complementary products and accessories

### Metal nozzle

Metal nozzle with rubber lid and probe-opening.

Prod. no:	Hose-diameter	Nozzle-diameter
MEN-75-100	75 mm	100 mm
MEN-100-100	100 mm	100 mm
MEN-125-125	125 mm	125 mm
MEN-125-150	125 mm	150 mm
MEN-150-150	150 mm	150 mm
MEN-150-200	150 mm	200 mm



### Starter SA-24

Starter for fan. It comes complete with built in contactor and transformer. It must be fitted with relevant motor overload (not included). Power supply: 3~230/400 V.

Prod. no: SA-24/75



### Munstycke, Grabber

A pneumatic exhaust pipe connector for quick connection of the exhaust hose. Manual hand valve is included. Pneumatic controlled by air from the local net. The compressed air pressure is reduced with PlymoVent regulator RM-15.

Prod. no:	Diameter hose con.	Diameter gummiblåsa
GN-75-100	75 mm	100 mm
GN-100-100	100 mm	100 mm
GN-100-120	100 mm	120 mm
GN-100-160	100 mm	160 mm
GN-125-160	125 mm	160 mm
GM-125-200	150 mm	200 mm
GN-150-160	150 mm	160 mm
GN-150-200	150 mm	200 mm



### Automatic damper

Fully automatic, motorised damper, Ø160 mm, with built-in energy saver. Adjustable delay 7 sek.-6 min.

Also available with switch assembly (S-100), for manual control. Power supply: 1~, 230 V.

Prod. no: ASE-12-E



### Regulator, Grabber

Reduces air pressure from the local net to the working pressure of the Grabber. Incl. manometer.

Prod. no: RM-15



### Stacker

Nozzle for upward turned exhaust pipe.

Prod. no:	Hose-diameter	Nozzle-diameter
STACK-125-200	125 mm	200 mm
STACK-150-250	150 mm	250 mm
TH-90	Telescopic handle 1,7-3,2m	
SC-90	Spring clip for Stacker	



### Control unit M-1000

For a central fan with several extractors. To be used with PlymoVent Automatic Damper. Starts/stops the central fan automatically when any of the extractors are used. Delay 15 sec. The motor overload (not included) is to be sized according to the central fan used. Power supply: 3~, 230/400 V.

Prod. no: M-1000



### Control Box PCU-1000

Fully automatic control box for operation of fan. The fan can be controlled manually or by using the pressure sensor **PC-500**. This product can also be combined with PlymoVent's automatic damper **ASE-12-E**. Adjustable overrun period of 7 sec. - 6 min. Built in contactor should be equipped with suitable overload (not included). Power supply: 3~, 230/400 V.

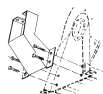
Prod. no: PCU-1000



### Fan mounting kit

To be used when mounting a fan to exhaust reel. Consists of bracket, rubber ring and fan socket.

Prod. no: FMA-80



### Fans

For mounting spring and power operated exhaust reels. Used with fan mounting set FMA above. FUA-1300 for exhaust reels Ø 75, 100mm, FUA-2100 for exhaust reels Ø 125, 150mm.

Prod. no: FUA-1300  
FUA-2100



### Pressure Sensor PC-500

This sensor, which is used for starting the fan, recognises any pressure change in ducts when a vehicle starts up. This device is intended for use together with **PCU-1000**.

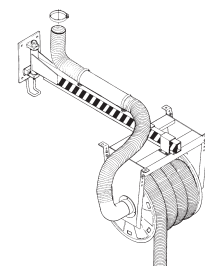
Prod. no: PC-500



### Swinging suspension arm

Swinging suspension arm and spring operated exhaust reel will cover a large area. The exhaust reel can either be connected to a central ducting or to a separate fan. The wall mounting bracket is prepared for the mounting of a fan.

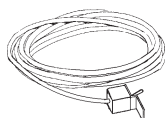
Prod. no:	Length
EB-2,5	2,5 m
EB-3,5	3,5 m
EB-4,5	4,5 m



### Micro switch

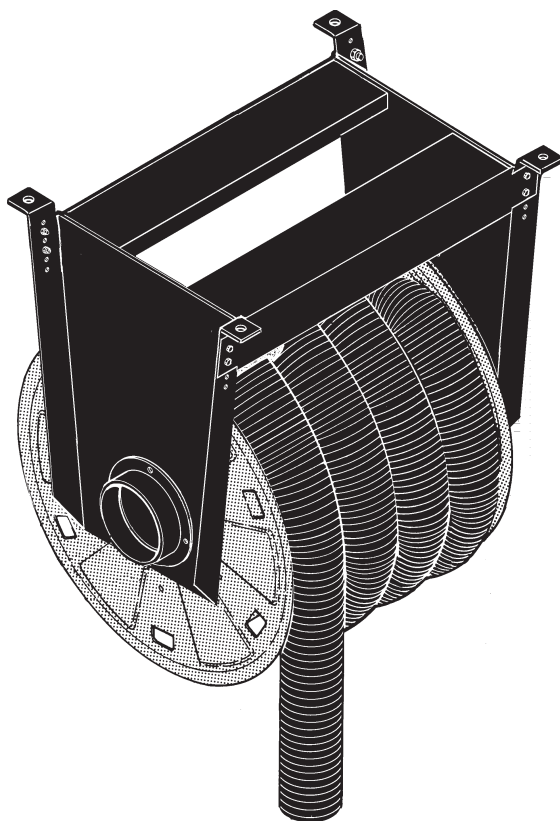
Used for control of damper and fan in spring operated exhaust reels. This device can be used together with SA-24 or ASE-12-E. Line supply: 24 V.

Prod. no: MS-24



SER/SERF-650-75, SER/SERF-650-100  
SER/SERF-850-125, SER/SERF-850-150

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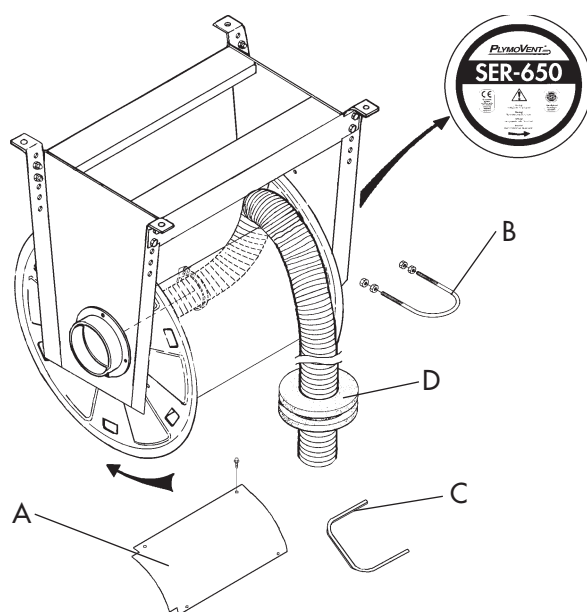
### Fjäderdriven avgasrulle Spring operated exhaust reel

#### Tabell förspänning/Table of pretension

Slang Ø/ Hose Ø	Slanglängd/ Hose length	Förspänning/ Pretension
Ø 75 mm	5 m	5 varv/turns
	7.5 m	6 varv/turns
	10 m	7 varv/turns
Ø 100 mm	5 m	5 varv/turns
	7.5 m	6 varv/turns
	10 m	7 varv/turns
Ø 125 mm	5 m	6 varv/turns
	7.5 m	7 varv/turns
	10 m	8 varv/turns
Ø 150 mm	5 m	7 varv/turns
	7.5 m	8 varv/turns
	10 m	10 varv/turns

### Montage av slang Mounting of hose

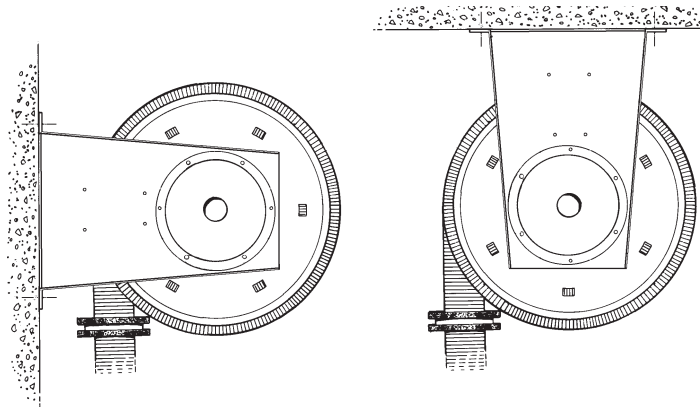
1. Förspänn slangrullen enligt tabell ovan för olika slangar.  
Vrid trumman i pilens riktning, se pil på fjäderhusets dekal.
  2. Demontera trumlocket A och bygeln B.
  3. Montera slangens till stosen inuti trumman.
  4. Böj slangens i en naturlig mjuk böj och fixera den med bygeln B.
  5. Skruva tillbaka trumlocket A.
  6. Montera kantlisten C i öppningen i trumman där slangens kommer ut.
  7. Montera på slangstoppen D så att slangens stannar på åtkomlig höjd när slangens rullas in.
- 
1. Pre-tense exhaust reel according to the above table for different hoses.  
Turn drum in the direction of the arrow; see arrow on the sticker of spring housing.
  2. Dismantle drum lid A and clamp B.
  3. Mount hose to the socket inside the drum.
  4. Bend hose into a natural soft curve and fasten it using clamp B.
  5. Replace drum lid A.
  6. Mount edge list C at the opening of the drum where the hose protrudes.
  7. Mount hose stop-ring D so that the hose stops at a convenient height when it is reeled in.



## Montage Mounting

Max montagehöjd  
3 m vid slanglängd 5 m  
5,5 m vid slanglängd 7,5 m  
8 m vid slanglängd 10 m

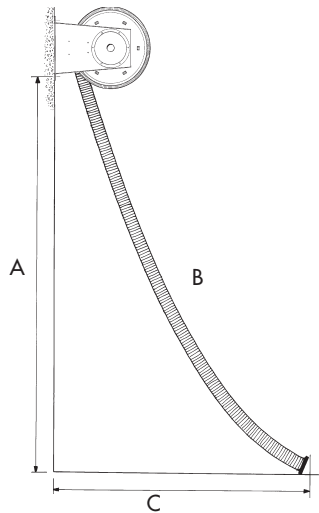
Max. mounting height  
3 m for hose length 5 m  
5,5 m for hose length 7,5 m  
8 m for hose length 10 m



Max montagehöjd  
3,5 m vid slanglängd 5 m  
6 m vid slanglängd 7,5 m  
8,5 m vid slanglängd 10 m

Max. mounting height  
3,5 m for hose length 5 m  
6 m for hose length 7,5 m  
8,5 m for hose length 10 m

## Räckvidd och montagehöjd Reach and mounting height



A=Montagehöjd  
A=Mounting height

B=Slanglängd  
B=Hose length

C=Max räckvidd  
C=Max. reach

A	B	C	B	C	B	C
2,5 m	5 m	3,4 m				
3 m	5 m	4,2 m	7,5 m	6,2 m		
3,5 m	5 m	3,8 m	7,5 m	5,9 m	10 m	8,5 m
4 m	5 m	3,3 m	7,5 m	5,5 m	10 m	8,3 m
4,5 m	5 m	2,6 m	7,5 m	5,2 m	10 m	8,0 m
5 m			7,5 m	4,7 m	10 m	7,7 m
5,5 m					10 m	7,4 m

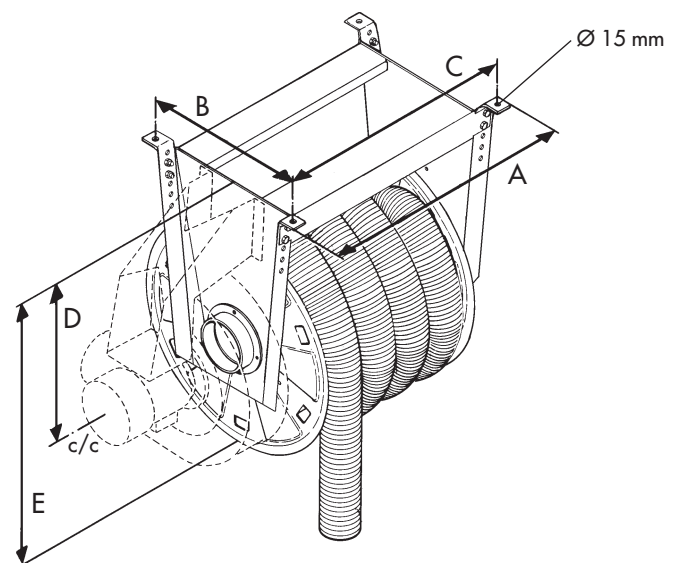
## Vikter/Mått Weight/Measures

Prod. nr./Prod. no: Vikt./Weight:

SER-650-75	49 Kg *
SER-650-100	49 Kg *
SER-850-125	54 Kg *
SER-850-150	54 Kg *
SERF-650-75	62 Kg *
SERF-650-100	62 Kg *
SERF-850-125	70 Kg *
SERF-850-150	70 Kg *

\* Vikt utan slang/Weight without hose.

	SER/SERF-650	SER/SERF-850
A	830 mm	1030 mm
B	500 mm	500 mm
C	774 mm	974 mm
D	490 mm	490 mm
E	790 mm	790 mm

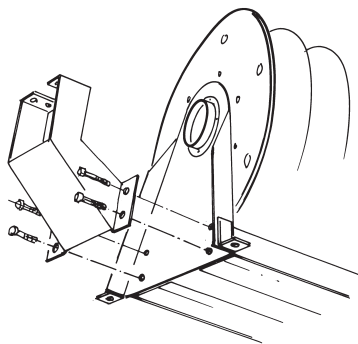


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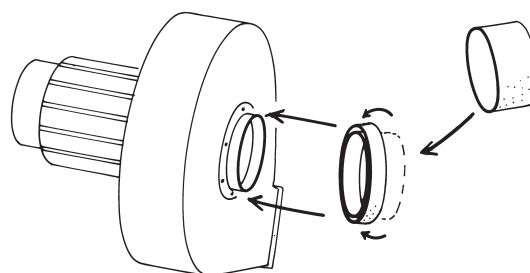
## Montage av fläkt Mounting of fan

Den fjäderdrivna avgasrullen levereras komplett med tak/väggfäste .  
Antingen för anslutning till centralfläkt eller med direktmonterad fläkt (se 1-4).  
Montera fläkten när rullen står upp och ned på golvet. Montera sedan den kompletta rullen på plats.

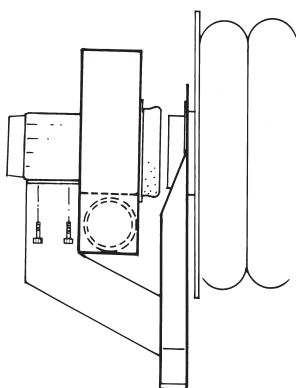
The springdriven hose reel is delivered complete including ceiling or wall mounting bracket.  
Either for connection to a central exhaust system or fitted with a fan (see 1-4).  
First mount the fan with the reel upside down on the floor and then mount the complete reel to its intended position.



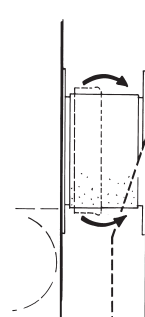
1. Montera konsolen till slangrullen.
1. Attach bracket to reel.



2. Montera tätningringen dubbelvikt på fläktstosen.
2. Fit rubber collar folded to socket.



3. Skruva fast fläkten på konsolen.
3. Screw fan to bracket.



4. Vik tätningringen över stosen på slangrullen.
4. Unfold rubber collar over the reel's socket.

---

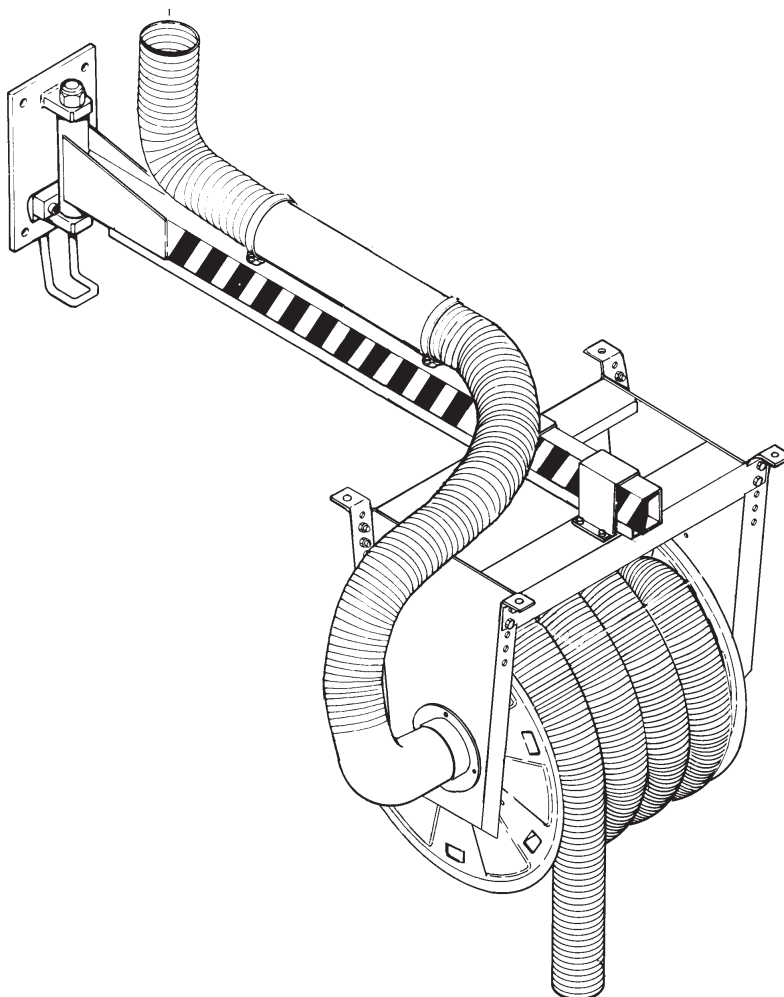
## Montering mot olika underlag Mounting to different supporting structures

Då rullen monteras mot stabilt underlag som järnbalk, gjuten betong etc. använd normalt dimensionerade infästningar.  
Vid porösa eller i övrigt osäkra material t ex håltegel, lättbetong, puts ect, rådgör alltid med sakkunnig (Hilti eller motsvarande).

When the reel is mounted to rigid structures like iron beam, concrete etc. then use normally dimensioned attachment.  
When mounted to porous or otherwise doubtful materials like hollow brick, lightweight concrete, plaster etc. do consult an expert.

Avgasrulle på svängarm  
Exhaust reel mounted on swinging arm

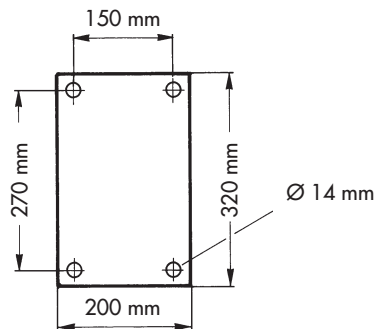
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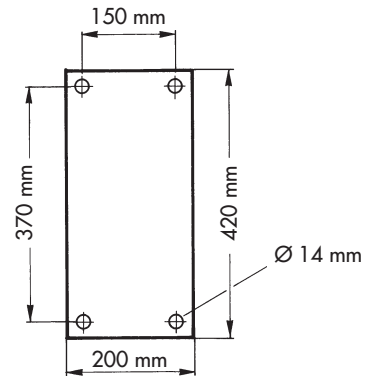
Prod. nr. Prod. no.	Räckvidd mm (se sid 9) Reach mm (see page 9)	Max. belastning/bult Max stretching/bolt	Säkerheten kräver/bult Torque demands/bolt
EB-2.5	2500	500	1500
EB-3.5	3500	650	1950
EB-4.5	4500	900	2700

# Montage Mounting

Fästplatta EB-2.5  
Mounting bracket EB-2.5

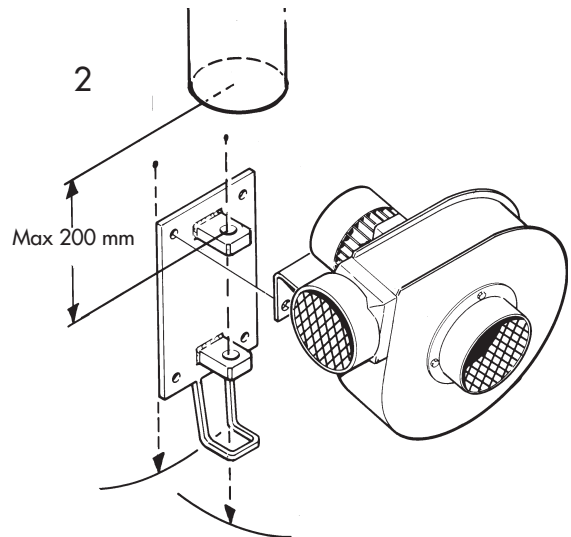


Fästplatta EB-3.5, EB-4.5  
Mounting bracket EB-3.5, EB-4.5

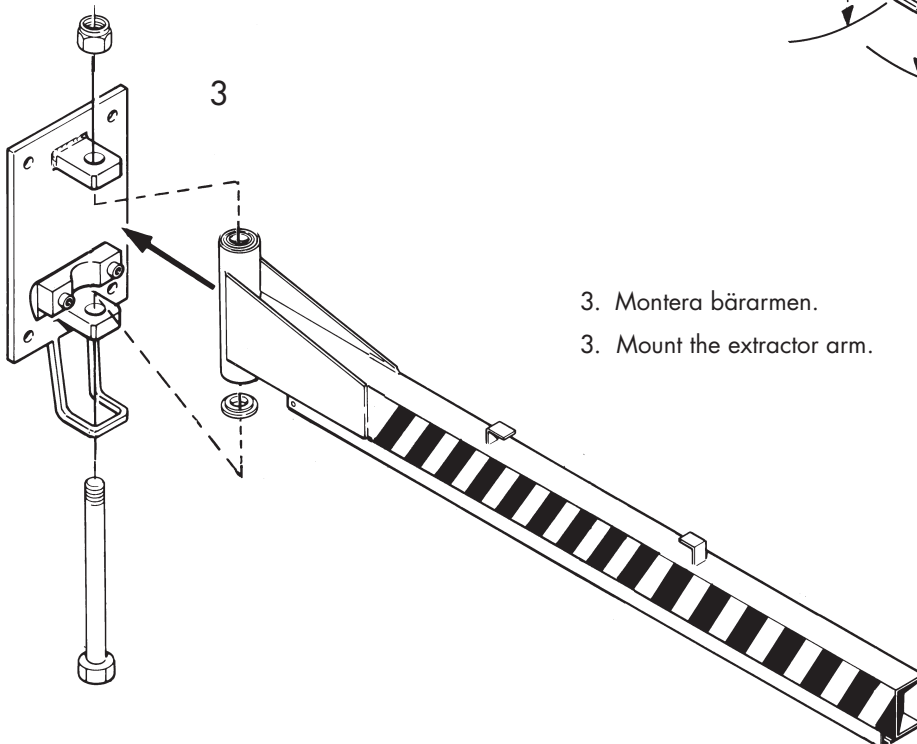


1. Montera fästplattan på vägg.
1. Bolt mounting bracket to wall.

2. Montera fläkten (om fläkt ingår).
2. Mount the fan (if included).



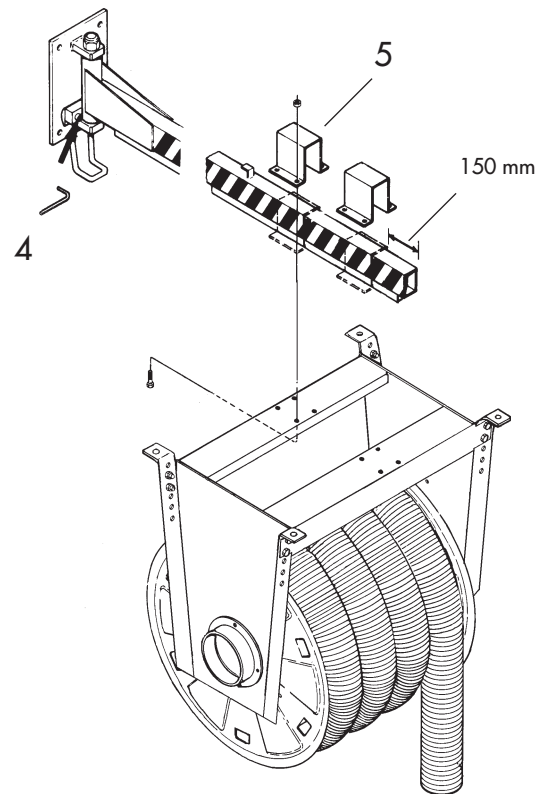
3. Montera bärramen.
3. Mount the extractor arm.



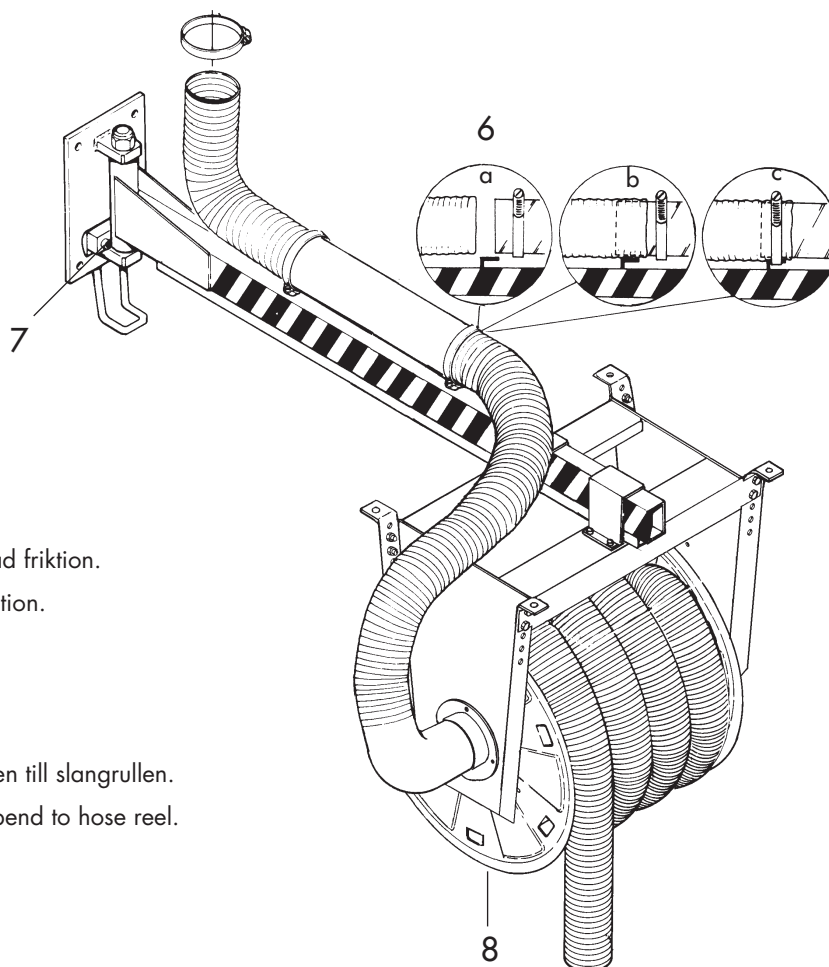
## Montage Mounting

4. Justera leden så armen inte glider iväg.
4. Adjust friction until arm remains in one position.

5. Montera slangrullen till armen.
5. Mount hose reel to extractor arm.



6. Montera spirorör och slang på bärrarmen.
6. Mount spiro-tubing and hose on the extractor arm.

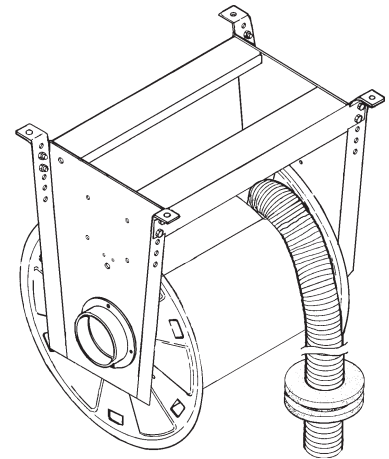
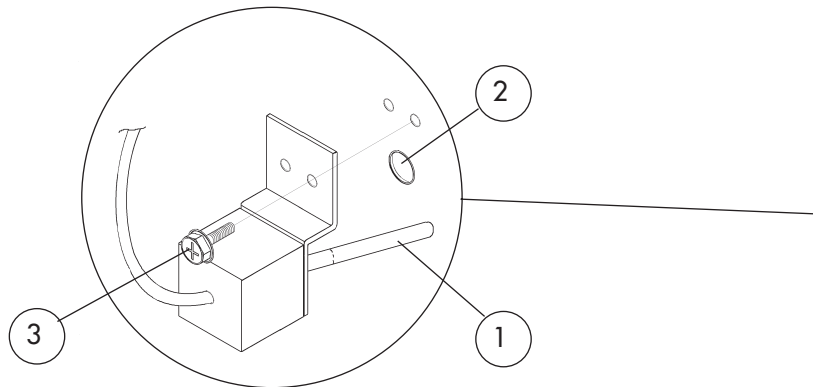


7. Justera till önskad friktion.
7. Set required friction.

8. Montera rörböjen till slangrullen.
8. Mount ducting bend to hose reel.

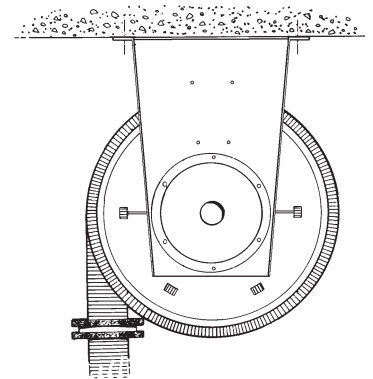
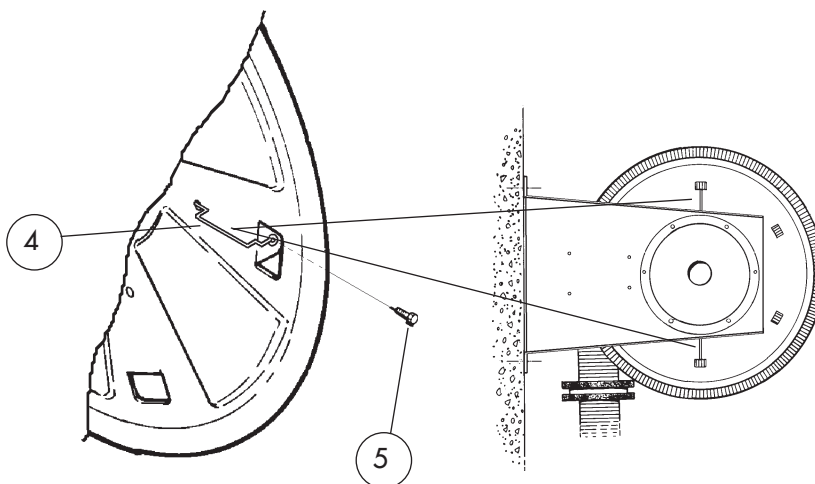
Mikrobrytare MS-24  
Micro switch MS-24

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1. För in strömbrytarens spröt (1) i hålet (2).
2. Skruva fast strömbrytaren med medföljande skruvar (3).
3. Kontrollera att strömbrytaren kan röra sig fritt åt båda hållen.

1. Insert the circuit-breaker's feeler (1) into the hole (2).
2. Secure circuit-breaker using enclosed screws (3).
3. Check that the circuit-breaker can move freely in both directions.

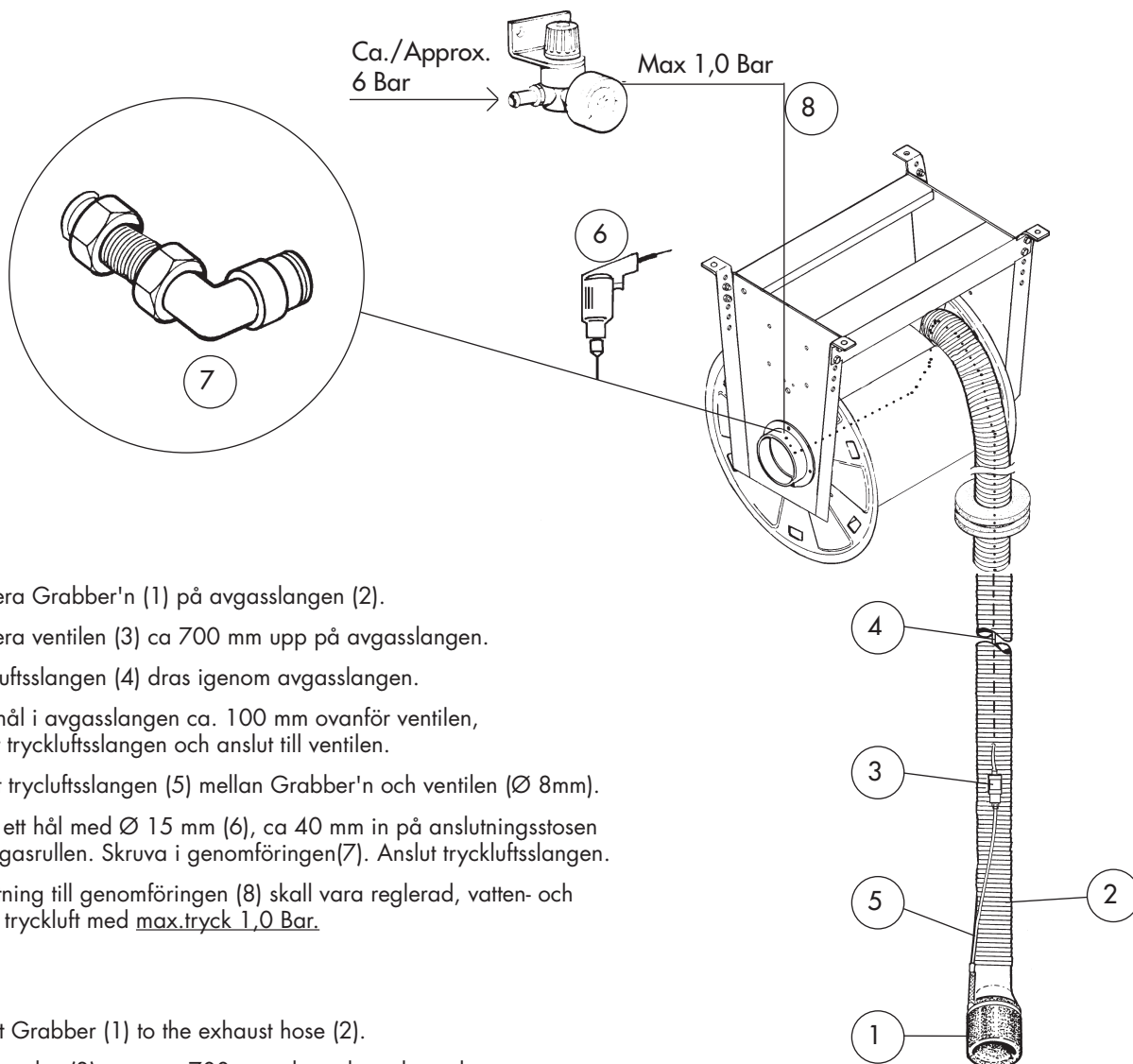


4. Drag ut slangen tills dess att fyra snäpp erhålles på ett av spärsegmenten.
5. Montera manövreringfjädrarna (4) (2st) på trumgaveln genom att lossa två av skruvarna (5) som håller trumman, OBS! montera fjädrarna i hålen enligt skiss.
6. Skruva tillbaka skruvarna.
7. För elektrisk installation se kopplingsschema på SA-24 eller ASE-12-E.

4. Pull out the hose and obtain 4 notches on one of the lock segments.
5. Mount the operating springs (4) (2 springs) on the drum by loosening 2 of the screws (5) that hold the drum, (N.B. mount springs according to diagram).
6. Refasten screws.
7. For electrical installation see diagram on SA-24 or ASE-12-E.

Grabbermunstycke  
Grabber nozzle

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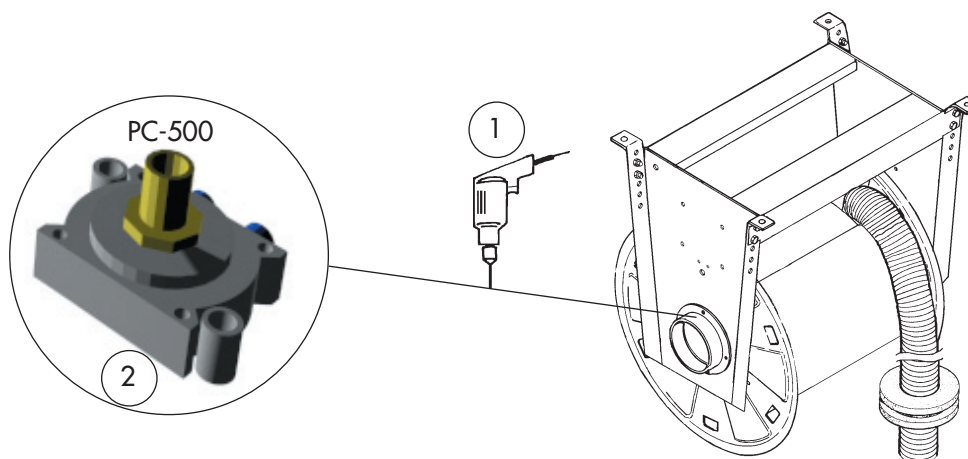


1. Montera Grabber'n (1) på avgasslangen (2).
2. Montera ventilen (3) ca 700 mm upp på avgasslangen.
3. Tryckluftsslangen (4) dras igenom avgasslangen.
4. Stick hål i avgasslangen ca. 100 mm ovanför ventilen, dra ut tryckluftsslangen och anslut till ventilen.
5. Anslut tryckluftsslangen (5) mellan Grabber'n och ventilen (Ø 8mm).
6. Borra ett hål med Ø 15 mm (6), ca 40 mm in på anslutningsstosen på avgasrullen. Skruva i genomföringen(7). Anslut tryckluftsslangen.
7. Anslutning till genomföringen (8) skall vara reglerad, vatten- och oljefri tryckluft med max.tryck 1,0 Bar.

1. Mount Grabber (1) to the exhaust hose (2).
2. Mount valve (3) approx. 700 mm along the exhaust hose.
3. Pull pneumatic hose (4) through the exhaust hose.
4. Make a hole on the exhaust hose approx. 100 mm above the valve, pull out pneumatic hose and connect it to the valve.
5. Connect pneumatic hose (5) between the Grabber and the valve (Ø 8 mm).
6. Drill a Ø15 mm hole (6) approx. 40 mm along the connecting socket on the hose reel. Screw on inlet. Connect the pneumatic hose.
7. The connection to the inlet (8) must be adjusted; water and oil free compressed air at max. pressure of 1.0 bar.

Trycksensor PC-500  
Pressure sensor PC-500

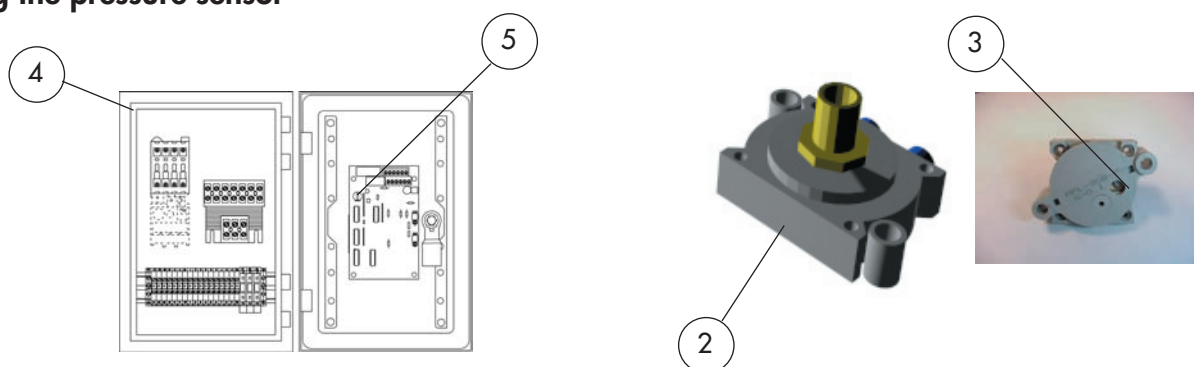
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1. Borra ett hål med  $\varnothing$  10mm (1), ca 40mm in på anslutningsstosen på avgasrullen.
2. Skruva/gänga in trycksensorn (2) direkt i anslutningsstosen.
3. Anslut elkablarna till PC-500 med medföljande anslutningsstift.
4. För anslutning till kontrollskåp PCU-1000 se separat elschema.

1. Drill a 10 mm hole (1) approx. 40 mm along the connecting socket on the exhaust reel.
2. Screw/thread in the pressure sensor (2) directly on the connecting socket.
3. Connect electric cables to PC-500 using the enclosed connecting pin plug.
4. For connection to control box PCU-1000 see separate electric diagram.

### Inställning av tryckvakt Adjusting the pressure sensor

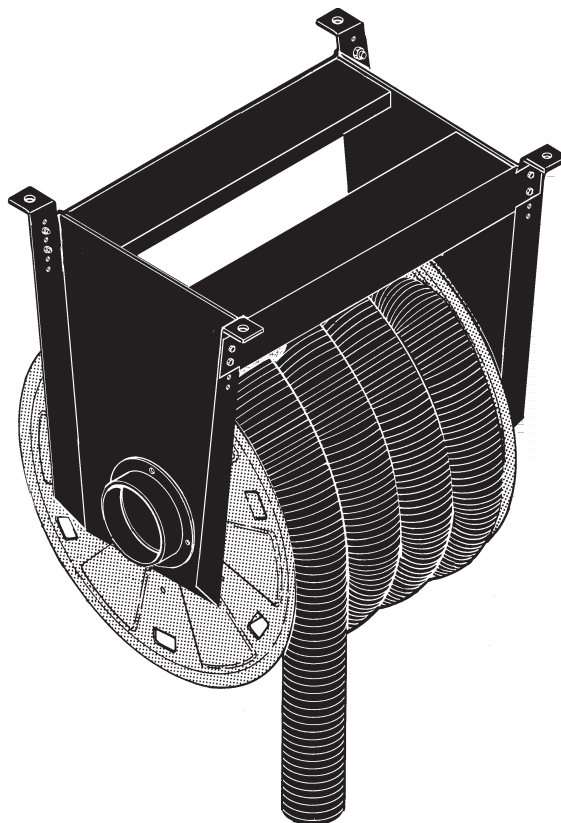


Eftergångstiden på PCU-1000 (4) ställs in på min.läge (ca. 7 sek), justerpot. (5) max motsols. Justerskruven(3) bak på tryckvakten (2) skruvas försiktigt in tills dess att fläkten startar. Skruva ut justerskruven något, vänta ca. 10sekunder så att eftergångstiden löpt ut. Fläkten skall då stanna, om inte skruva ut justerskruven lite till, vänta ca.10sekunder o.s.v. Prova inställningen med ett fordon. (Se sep. produktmanual: PCU-1000.)

After-run time on the PCU-1000 (4) is adjusted to the min. position (approx. 7 sec.), adjustment pos. (5) max. anti clockwise. The adjusting screw (3) on the back of the pressure sensor (2) is screwed in slowly until the fan starts. Loosen the adjusting screw slightly, wait approx. 10 seconds until the after-run time expires. The fan will then stop, if not, loosen the adjusting screw a little more, wait approx. 10 seconds etc. Try out the adjustment on a vehicle. (See separate product manual, PCU-1000)

SER/SERF-650-75, SER/SERF-650-100  
SER/SERF-850-125, SER/SERF-850-150

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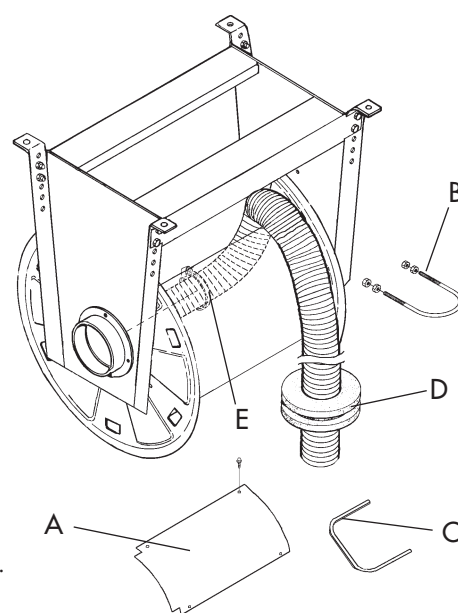


Fjäderdriven avgasrulle  
Spring operated exhaust reel

### Byte av slang Replacing the exhaust hose

1. Rulla ut slangen helt och spärra rullen i yttersta läget.
2. Demontera kantlisten C, trumlocket A och bygeln B.
3. Lossa slangklamret E vid anslutningsstosen, avlägsna den gamla slang.
4. Montera ny slang och böj slang i en naturlig mjuk böj och fixera den med bygeln B..
5. Skruva tillbaka trumlocket A.
6. Montera kantlisten C i öppningen i trumman där slang kommer ut.
7. Flytta över slangstoppen (D) på den nya slang och passa in så att slang stannar på åtkomlig höjd när rullen rullar in.
8. Rullen skall nu vara klar att användas.

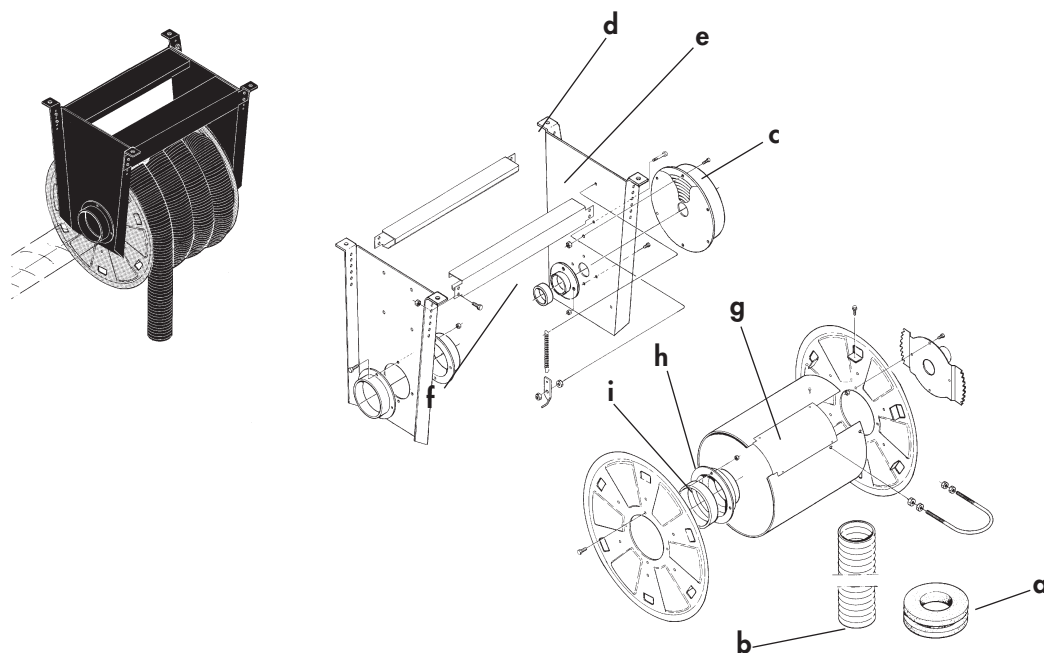
1. Uncoil hose completely and lock reel in its most extended position.
2. Dismantle edge list C, drum lid A and clamp B.
3. Loosen hose clip E on the connecting socket and remove the old hose.
4. Attach new hose, bend it into a natural soft curve and fasten it using clamp B.
5. Replace drum lid A.
6. Mount edge list C at the opening of the drum where the hose protrudes.
7. Remove hose stop ring D from the old hose and fit it on the new one and adjust so that the hose stays at a convenient height when reeled in.
8. The reel is now ready for use.



---

## Byte av fjäderpaket Replacing the spring

1. Demontera slangstoppen **(a)** och låt slangen **(b)** rullas upp helt på trumman.
  2. Snurra rullen ca 4 varv "baklänges" så att fjäderspänningen upphör (om fjädern fortfarande är hel).
  3. Ta loss alla insexskruvar på fjäderhuset **(c)**. Markera fjäderhusets läge!
  4. Sätt fjäderhuset med ny fjäder på plats. Dra fast bultarna växelvis så att inga spänningar uppstår.
  5. "Förspänn" rullen ca 7 varv. Sätt fast slangstoppen på slangen.
- 
1. Take off the hose stopper **(a)** and allow the hose to completely coil onto the reel **(b)**.
  2. Revolve the reel about 4 revolutions "backwards" in order to equalize the spring-tension (if the spring is still in function).
  3. Unscrew all socket head cap screws at the spring casing **(c)**. **Mark the position of the spring casing!**
  4. Put the new spring casing in position. Tighten the bolts evenly.
  5. "Pre-tension" the reel about 7 revolutions. Put the hose stopper in position.



---

## Byte av plastglidlager Exchanging the plastic bearings

*Detta arbete utförs lättast med rullen nedmonterad stående på golvet.*

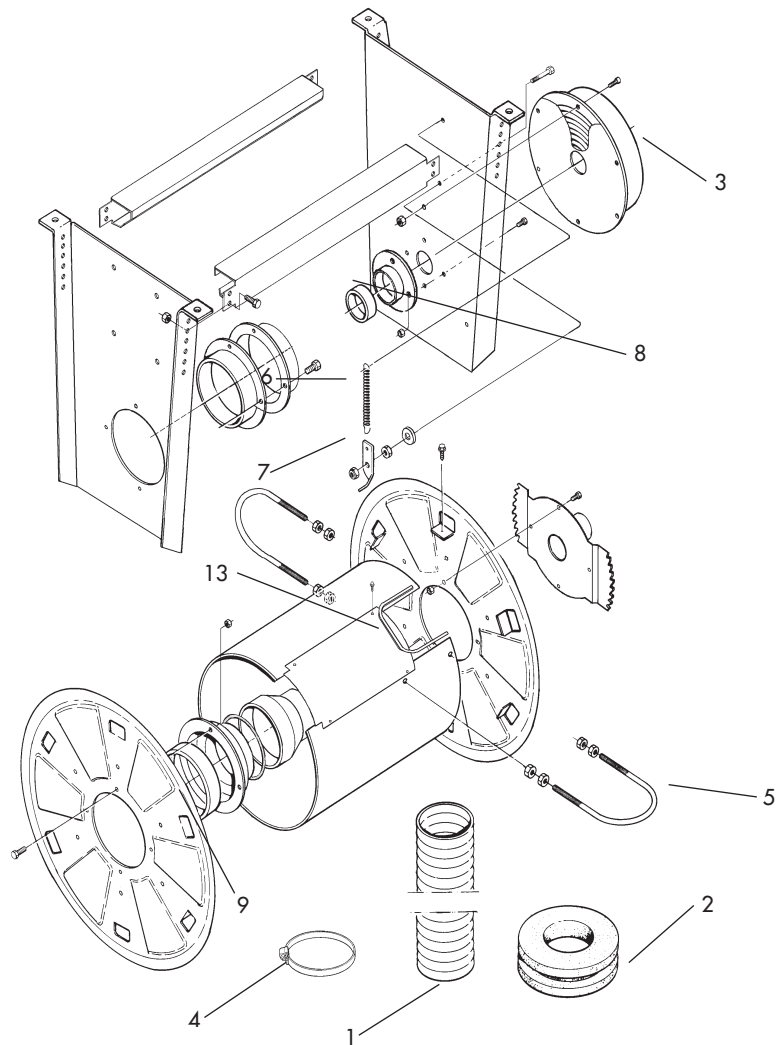
1. Demontera slangstoppen **(a)** och låt slangen **(b)** rullas upp helt på trumman.
2. Snurra rullen ca 7 varv "baklänges" så att fjäderspänningen upphör.
3. Lossa benet på fjädersidan **(d)** genom att lossa bultarna vid balken **(e)**.
4. Lyft ur trumman ur rullen.
5. Byt plastlagret **(f)**.
6. Skruva loss trumlocket **(g)**. Demontera anslutningsstosen **(h)** och byt plastlagret **(i)**.
7. Återmontera i omvänd ordning.

*This work is best done with the reel dismantled and standing on the floor.*

1. Dismantle hose stop-ring **(a)** and allow the hose **(b)** to completely rewind onto the reel.
2. Turn the reel approx. 7 revolutions "backwards" in order to cancel the spring-tension.
3. Loosen the leg on the side of the spring **(d)** by loosening the bolts on the beam.
4. Remove the drum from the reel.
5. Change the plastic bearing **(f)**.
6. Unscrew drum lid **(g)**. Dismantle the connecting socket **(h)** and change the plastic bearing **(i)**.
7. Reassemble in reverse order.

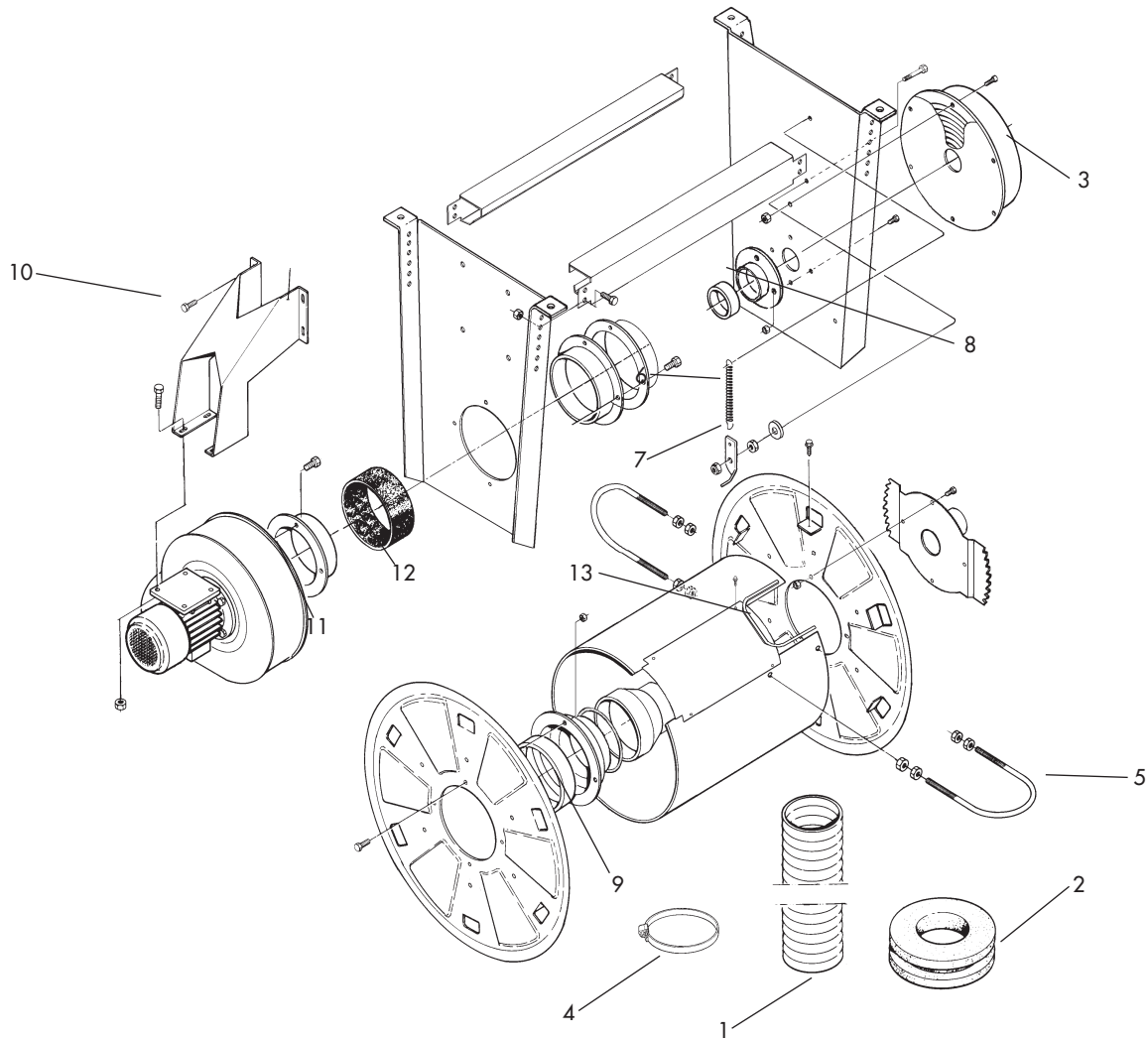
SER-650-75,    SER-650-100  
SER-850-125,   SER-850-150

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SERF-650-75, SERF-650-100  
SERF-850-125, SERF-850-150

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## SPARE PARTS LIST

BSAB No:

Ser. No:

Date:

Replace:

**SER-650-75 SER-650-100**  
**SER-850-125 SER-850-150**

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### Produkt No:

### Decription

A	All models	All models of
B	SER-650-75	
C	SER-650-100	
D	SER-850-125	
E	SER-850-150	
F		
G		

revisions

X = Order as required, state required length.

Pos	Art. No:	A	B	C	D	E	F	G	Description	Note
2	4-991		1						Stopring 75	
	4-793			1					Stopring 100	
	4-802				1				Stopring 125	
	4-803					1			Stopring 150	
3	524 389	1							Spring housing compl.SER	
4	961 433		1						Hose clip Ø75	
	961 441			1					Hose clip Ø112	
	961 458				1				Hose clip Ø138	
	961 490					1			Hose clip Ø165	
5	962 126		1						Clamp 75	
	962 118			1					Clamp 100	
	962 134				1				Clamp 125	
	962 159					1			Clamp 150	
6	968 115	1							Tension spring	
7	4-704,1	1							Lock	
8	4-971	1							Plastic bearing	
9	4-783	1							Plastic bearing	
13	972 059	X							Edge list /m	

When ordering spare parts please quote:

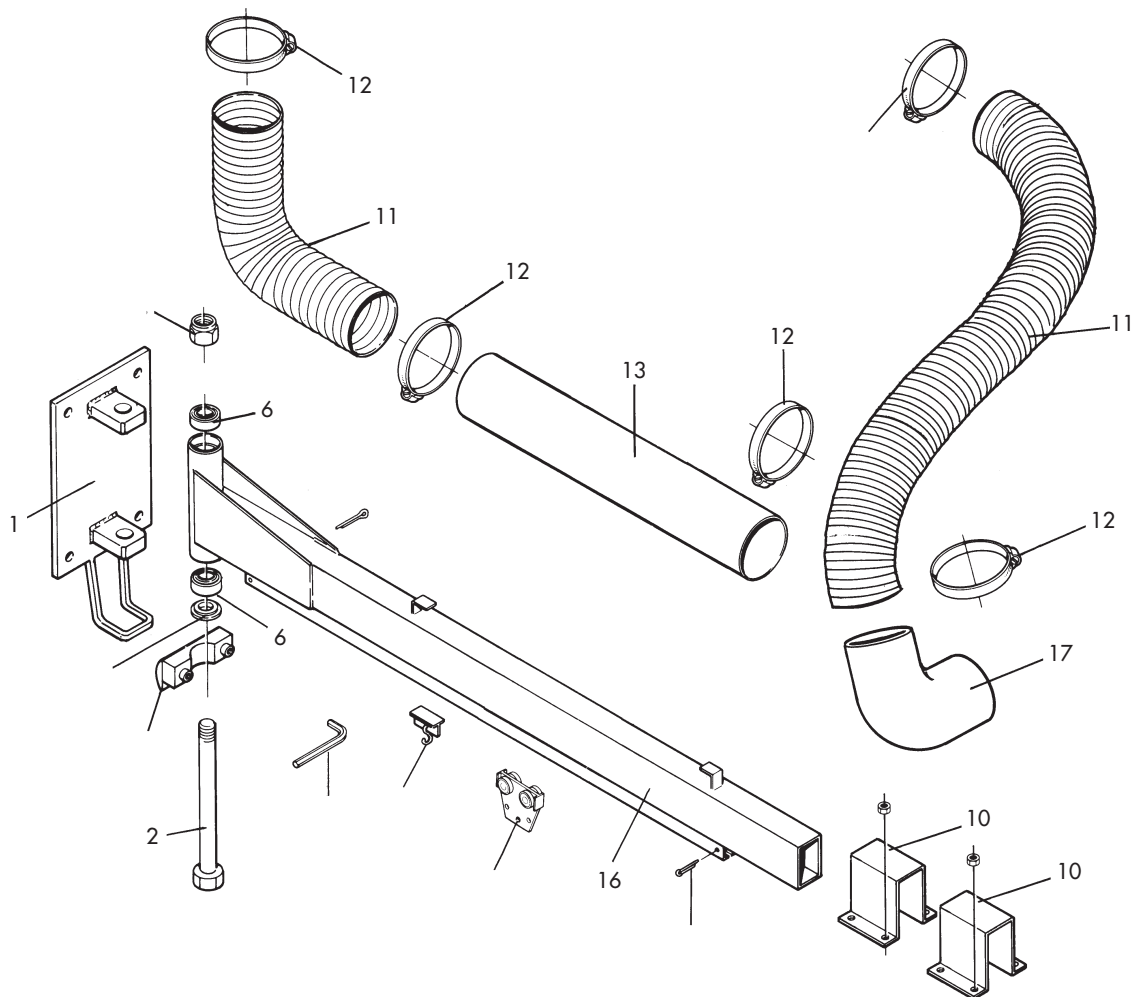
•Product No. (see label) • Batch No • Description • Part No • Quantity

For example:

SER, 00040, valve, 4-971, 1 pc

Avgasrulle på svängarm  
Exhaust rell on swinging arm

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## SPARE PARTS LIST

BSAB No: T3.1  
Ser. No: EB / RR  
Date: Aug -98  
Replace:

EB

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### Produkt No:

### Decription

A	All models	All models of EB
B	EB-2,5	
C	EB-3,5	
D	EB-4,5	
E		
F		
G		

### Abreviations

X = Order as required, state required length.

Pos	Art. No:	A	B	C	D	E	F	G	Description	Note
1	508 424	1							Mount bracket EB-35,EB-45	
	508 432								Mount bracket EB-25	
2	508 440	1							Boom/set accessories c-/parts	
6	963 009	2							Ballbearing EB-25	
	963 017	2							Ballbearing EB-35, EB-45	
10	524 470	2							Hose reel attachment	
11	999 219	2							Inner hose 1,3M/4,28' Ø165mm/6,50"	
12	961 466	4							Hose clamp sms-168 black	
13	979 252,1		1						Inner lenght rigid ducting	
	979 302,1			1					Inner lenght rigid ducting	
	979 328,1				1				Inner lenght rigid ducting	
16	503 847,1		1						Boom/ inner arm 2,5M/ 8,22' black	
	503 861,1			1					Boom/ inner arm 3,5M/ 11,51' black	
	503 896,1				1				Boom/ inner arm 4,5M/ 14,80' black	
17	980 292,1	1							90° bend Ø 160mm/ 6,50"	
18										
19										
20										

When ordering spare parts please quote:

•Product No. (see label) • Batch No • Description • Part No • Quantity

For example:

EB, 00040, Hose clamp ,961466 , 1 pc