



TEKNISK INFORMATION

SBT

DESCRIPTION

Sliding Balancer Track System SBT

SBT is used in fire and rescue stations where there is one vehicle parked behind the exit door waiting an emergency call. The distance from door to vehicle-exhaust being a maximum of 10 m. The exhaust pipe being positioned sideward.

An automatic, pneumatic controlled exhaust gas extraction system, specially designed for fire and rescue vehicles with low level, side exhaust pipes. The system is used to remove the poisonous petrol and diesel gas fumes direct at the emission source, the exhaust pipe.

When the vehicles are on their way out of the station, the extraction hose, connected to the exhaust by a special device called a GRABBER®, moves along with the vehicle.

Poisonous diesel gases pass from the GRABBER®, up the extraction hose and into the ducting and extraction fan before escaping to the atmosphere.

As the vehicles drive out through the doors, the trolley moves over a release valve on the track, which releases the air pressure in the GRABBER® allowing it to disconnect from the exhaust pipe.

TECHNICAL DESCRIPTION

The SBT system consists of a special and easily visible extraction hose assembly with a unique pneumatic exhaust connection called the PlymoVent Grabber®. This resembles a glove which, when filled with compressed air, makes a total seal around the exhaust pipe.

The extraction hose has a safety disconnect coupling and a Manual Fill Deflation Valve. It is suspended on a balancer block, safety hole hang from a special trolley, running inside an aluminium profile above and to the side of the vehicle.

The aluminium profile, track, is designed to the three (3) section principle of which two (2) sections have open areas, one on the underside and one on the overside.

The overside open area is used for positioning the support legs, duct and exhaust hose connector and the release valve.

The underside open area is used for positioning end stops and for the sliding the trolley. Upon an alarm call the hose assembly and the trolley move along with the vehicle, the trolley slides under a release valve which immediately releases the air pressure in the Grabber®.

The trolley travels to the rubber shock absorber at the exit end, taking up the kinetic energy from the trolley and hose assembly.

On the return of the vehicle to the station, the Grabber® is connected to the exhaust pipe and activated by simply pressing the MFD valve as the vehicle backs through the gate. At the same time the fan automatically starts up and the vehicle continues to its rest position.

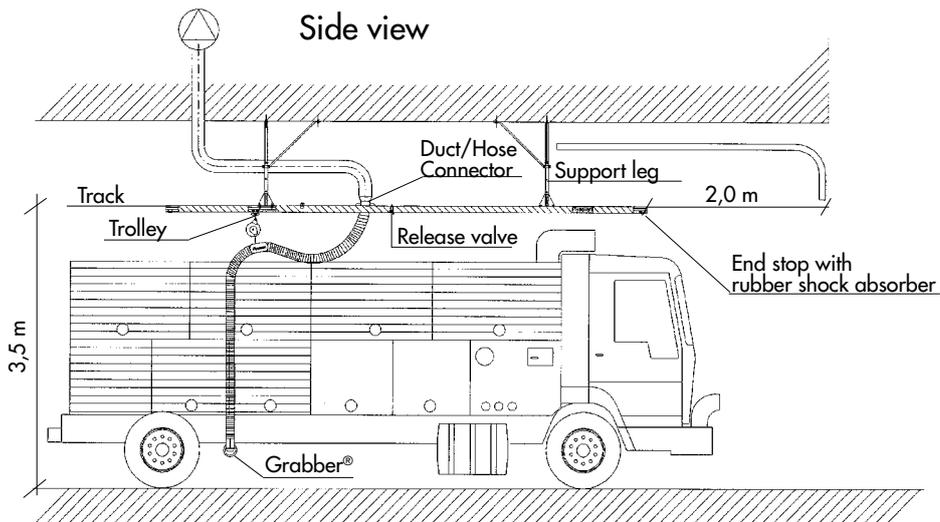
TECHNICAL DATA

Mått, slanglängder, Grabber mm

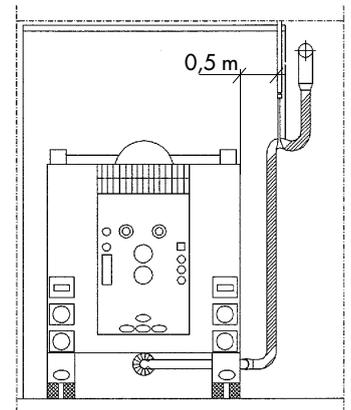
PLYMOVENT®

www.plymovent.com

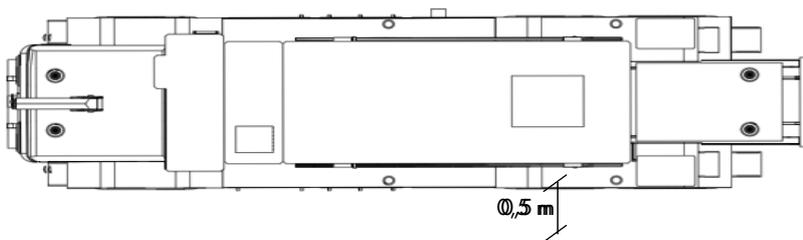
PRODUCT DESCRIPTION



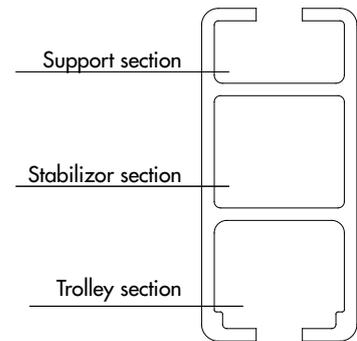
End view



Overview



Track section



ADVANTAGES

- Aluminium profiles; Light and strong
- End stops with rubber shock absorbers; to take up kinetic energy from the trolleys.
- Adjustable release points depending on the speed of the call-out vehicle.
- Pre-fitted extraction hose with easily seen black/yellow markings.
- Unique pneumatic exhaust pipe connector "GRABBER®"; to suit different sizes of exhaust pipe.
A Virtually 100 % tight against diesel exhaust fume leaks on startup.
- Safety disconnect coupling; Fail safe system, easily reconnectable.
- Automatic start-stop of fan by exhaust gas start-up detector. Reduces electric costs in installation whilst giving virtually 100 % security that fans start or stop when vehicles start or stop.

DELIVERY

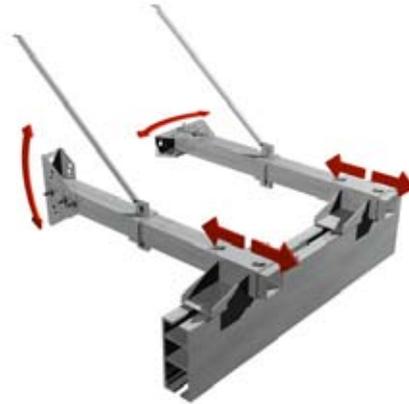
The track is delivered in parts together with a product manual. Fan, fan control device and compressed air supply need to be added individually depending on application.

SYSTEM COMPONENTS

The SBT, in all different versions, is built out of a few standard components which will be described in this section.



Vertical mounting



Horizontal mounting

Support leg

The aluminium support leg is used for both vertical and horizontal mounting. The standard length is 19' (5790 mm) and it has to be cut to proper lengths. The dimension is 2" x 2" x 0,1" (50x50x2,5 mm).



Prod. No SBT-SL

Side brace

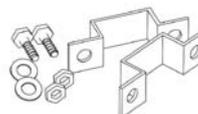
There are three different lengths available, 20" (500 mm), 30" (750 mm) and 6' (1800 mm). The brace can be mounted separately or in pairs using the same brackets.



Prod. No SBT-SB-S, 20" (500 mm)
Prod. No SBT-SB-M, 30" (750 mm)
Prod. No SBT-SB-L, 6' (1800 mm)

Side brace clamp kit

The kit includes two aluminium brackets for one or two side braces.



Prod. No. SBT-SBCK

Adjustable mounting kit (vertical)

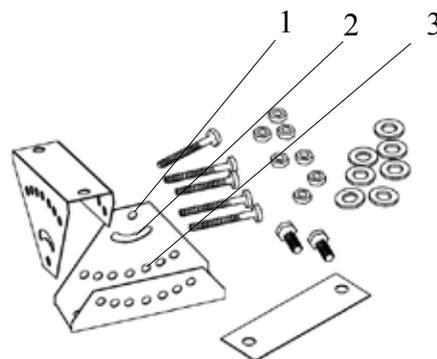
The two brackets are exactly the same. They can also be used if the roof is angled and they can be mounted in both directions.

Maximum angle is 30 degrees.

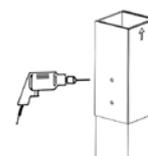
In order to fasten the bracket to the support leg three through holes have to be drilled. Start by drilling hole "1" and "2" using the drilling template "SBT-DT".

The end on the template with an "arrow" shall be towards the end of the support leg.

Then adjust the bracket to an exact position and fix it by drilling a third hole "3", using the most centred hole from the top row.



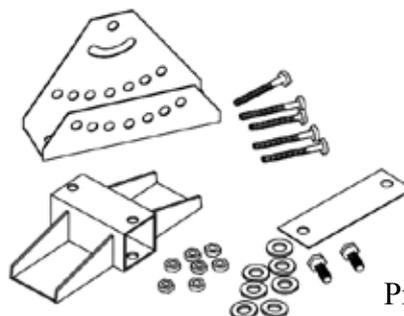
Prod. No. SBT-MKV



Prod. No. SBT-DT

Adjustable mounting kit (horizontal)

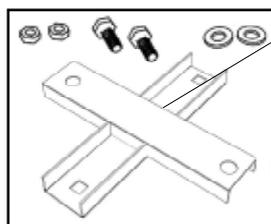
The bracket that shall be used against the wall is the same as for the vertical kit but on the track side there is a new bracket which is adjustable in relation to the support leg. When the bracket is fixed in right position two through holes in the support legs are drilled using the bracket as a template.



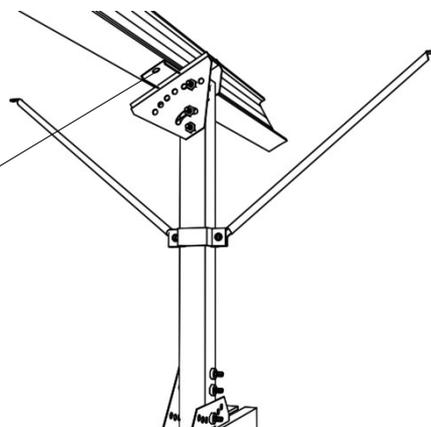
Prod. No. SBT-MKH

Universal mounting cross

The cross can be used if the wall or roof is angled but the only available beam is going in the "wrong" direction for the standard bracket. The position of the cross is between the bracket and the wall.



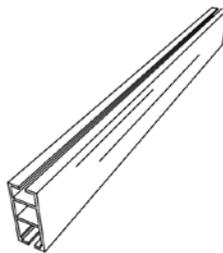
Prod. No. SBT-UMC



SYSTEM COMPONENTS

SBT track

The track is delivered in the same length as the support leg, 19' (5790 mm) or 9,5' (2895 mm).



Prod. No. SBT-TRACK
Prod. No. SBT-TRACK-1/2

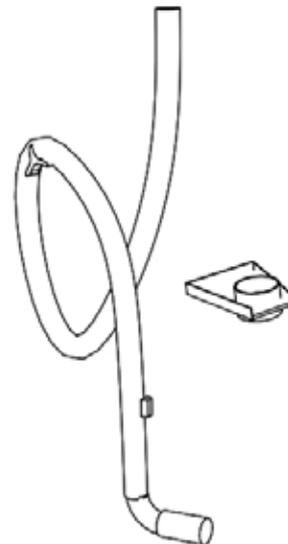
Hose kit

There are 7 hose kits available which also contains the hose connector.

- Hose diameters are 4" (100 mm) or 5" (125 mm).
- Length 19,7' (6m) or 32,8' (10 m).
- Grabber 120 or 160.

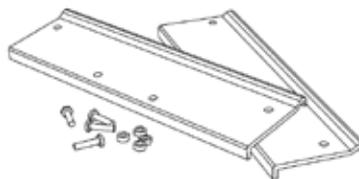
Prod. No.

SBT-HK-100-6-100
SBT-HK-100-6-120
SBT-HK-100-6-160
SBT-HK-100-10-120
SBT-HK-100-10-160
SBT-HK-125-6-160
SBT-HK-125-10-160



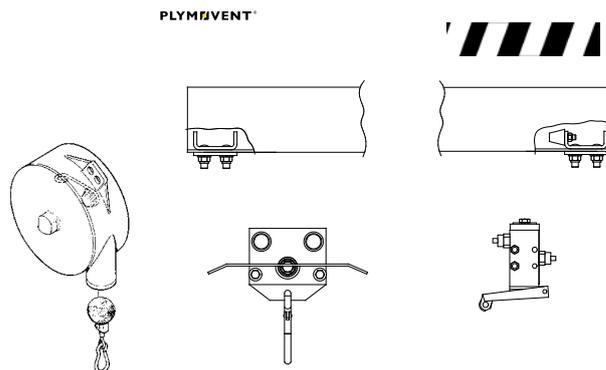
Splicing sleeve

If the track is longer than 19' (5790 mm) a splicing sleeve shall be used.



SBT-KIT, Common material

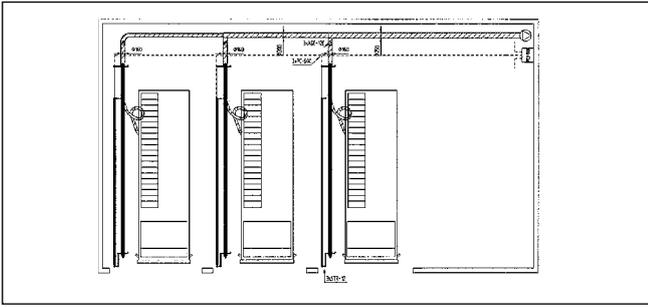
Common material that are always included are gathered under product no "SBT-KIT". Material included in the kit are for example release valve, end stop, hazard stripe etc.



SERVICE

Only light service and maintenance is required on the SBT system.
For further information see SBT Product User Manual PUM.
The PlymoVent factory trained and certified service organization offers agreements for service and maintenance covering the complete installation.

SYSTEM SOLUTIONS AND DESIGN



A three bay application with all vehicles required at an alarm situation.

Fan to be designed for exhaust extraction from all vehicles at the same time -100% diversity.

Fan control system is designed to provide the most efficient solution. Automatic fan start by pressure sensors, located in duct when the vehicle starts the engine. The control unit, PCU-1000, provides option with manual start and stop for servicing.

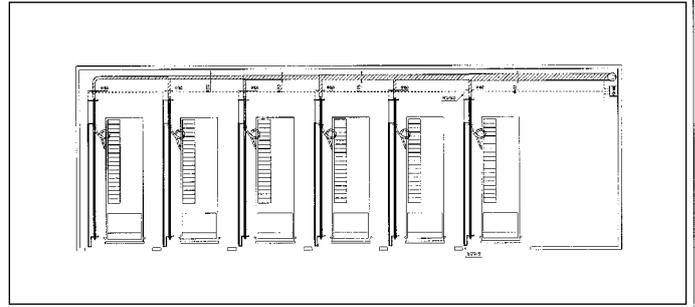
Advantages

Automatic fan start when vehicle engine is switched on.

- Low voltage control system for simple and cost effective installation.
- Adjustable fan running time between 7 sec. - 6 min.
- Energy saving and efficient with automatic motorized dampers, ICE-LC and MD-100.

Guide values for airflow

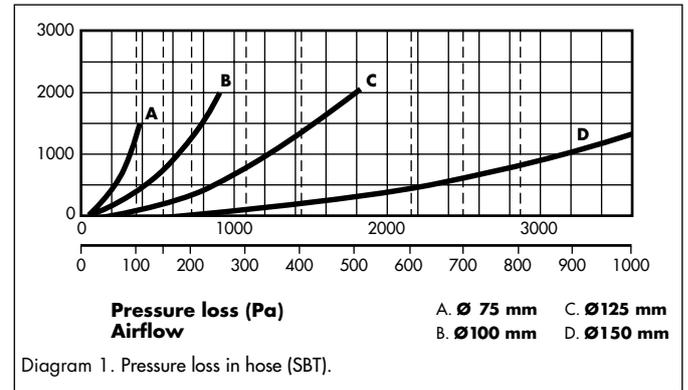
Chief and officer vehicle: 100 l/s = 360m³/h
 Fire truck up to 10 l engine: 720 m³/h
 Fire truck up to 16 l engine: 1080 m³/h
 Fire truck up to 24 l engine: 1800 m³/h
 Air velocity in ducting:



A six bay application with three vehicles required at an alarm situation.

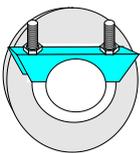
Fan to be designed for exhaust extraction from three vehicles at the same time -50% diversity.

Fan control system is designed provide the most energy saving and efficient solution. Automatic motorized dampers, ASE-12, allows extraction only from the vehicle with the motor running. Fan and dampers are activated automatically when the vehicle starts by the pressure sensor. The control unit, PCU-1000, provides option with manual start and stop for servicing.



ACCESSORIES

- Tailpipe adapters for correct positioning of the GRABBER nozzle, 50-150mm diameters.
- Pressure switch PC-500 for automatic start-stop, used together with PCU-1000 or ICE-LC.
- Automatic fan starter PCU-1000, after-run time adjustable 7 sec to 6 min.
- ICE-LC, automatic motordriven damper controller.
- MD- motordriven damper 24V, available in different diameters.
- PlymoVent offers a range of central fans as a complement to your exhaust system.
- More options and accessories at www.plymovent.com



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