

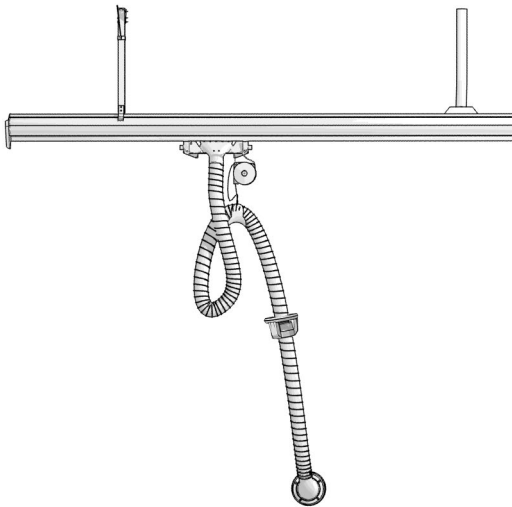
STR-Magnetic

Straight Rail System - Magnetic Grabber®

TÜV-SÜD

PRODUCT USER MANUAL

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Thank you for buying a Plymovent product. Before you unpack and put it into operation please read this product manual carefully, and follow the instructions.

This manual should be handed over and kept by the service department after the installation.

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I. IMPORTANT SAFETY INSTRUCTIONS

Please read these instructions before installing the Sliding Track Rail (hereafter called STR) Magnetic system. This will help you obtain the full benefit from the exhaust removal system you have selected.

- A. Read the Product user manual and Safety Instructions carefully. Failure to follow these instructions could cause a malfunction in the system or unsatisfactory performance.
- B. Follow a regular service and maintenance schedule for efficient operation.


PREFACE


Using this manual


This manual is intended to be used as a work of reference for professional, well trained and authorized persons / user's to be able to safely install, use, maintain and repair the product mentioned on the cover of this document.

Pictograms and symbols


The following pictograms and symbols are used in this manual:

	ATTENTION A remark with additional information for the user. A remark brings possible problems to the user's attention.
--	--

	CAUTION! Procedures, if not carried out with the necessary caution, could damage the product, the workshop or the environment.
---	--

	WARNING! Procedures which, if not carried out with the necessary caution, may damage the product or cause serious personal injury.
---	--

	WARNING! Denotes risk of electric shock.
---	--

	WARNING! Important warning to prevent fire.
---	---

Service and technical support

For information about specific adjustments, maintenance or repair jobs which are not dealt with in this manual, please contact the supplier of the product. He / she will always be willing to help you.

Make sure you have the following specifications at hand:
- The STR Magnetic Product User Manual

2. INTRODUCTION

1.1 Identification of the product

The STR-Magnetic system is made up out of various different parts which together form the STR Exhaust Removal System. All these individual parts can be traced back to this Product User manual.

3. PRODUCT DESCRIPTION

The STR system consists of a number of parts of which the Plymovent yellow and black extraction hose assembly is most visible to the user.

The extraction hose has a Safety Disconnect Coupling built in, this to protect the system against misuse. The hose is positioned in the Saddle which connects to the balancer. The balancer is connected to the aluminium track via a special trolley. This enables the trolley to move inside the aluminium profile which is positioned above and to the tailpipe side of the vehicle.

The aluminium rail has a circular design with an open section of 200 cm²/31 in². The underside of the profile is sealed by rubber lips. The system allows for flexibility in stations with multiple vehicles in line with side or rear high exhaust pipes.

Method of use:


An automatic, magnetic exhaust gas extraction system, specifically designed for exhaust extraction of 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 vehicle is on its way out of the station, the extraction hose, connected to the exhaust by a special device called a Grabber[®] to the tailpipe connector moves along with the vehicle.

Poisonous diesel gasses 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 to the end of the track. There the balancer locking cable restricts the balancer to unwind pulling the Grabber[®] from the tailpipe connector allowing it to disconnect.

On the return of the vehicle to the station, The Grabber[®] is easily re-connected to the exhaust pipe. At the same time the fan automatically starts up and the vehicle continues to its standard park position

	WARNING! The use of exhaust removal hose is allowed for: - Moving of diesel-vehicles in- or out halls / stations. - Short time maintenance work of diesel-vehicles, but only if the engine is running on the minimum rpm. - The vehicle must leave and enter the station with a modified speed in order to avoid damage to the system and possible injury to people.
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4. SAFETY

General

The manufacturer does not accept any liability for damage to the product or personal injury caused by ignoring of the safety instructions in this manual, or by negligence during installation, use, maintenance, and repair of the product mentioned on the cover of this document and any corresponding accessories.

Specific working conditions or used accessories may require additional safety instructions. Immediately contact your supplier if you detect a potential danger when using the product. The user of the product is always fully responsible for observing the local safety instructions and regulations. Please observe all applicable safety instructions and regulations.

User manual

- Everyone working on or with the product, must be familiar with the contents of this manual and must strictly observe the instructions herein. The management should instruct the personnel in accordance with the manual and observe all instructions and directions given.
- Never change the order of the steps to perform.
- Always keep the manual with or near the product.

Pictograms and instructions on the product (if present)


- The pictograms, warning and instructions attached to the product are part of the safety features. They must not be covered or removed and must be present and legible during the entire life of the product.
- Immediately replace or repair damaged or illegible pictograms, warnings and instructions.


Users

- The use of this product is exclusively reserved to authorized, trained and qualified users. Temporary personnel and personnel in training can only use the product under supervision.
- Use common sense. Stay alert and keep your attention to your work. Do not use the product when you are under the influence of drugs, alcohol or medicine.
- The product is not designed to be installed or operated by persons with limited physical, sensory or mental issues and / or limited knowledge of the system, the trained person is responsible to supervise the operation and give possible directions.
- Be aware that no person is within a range of 1 (one) meter besides the vehicle when it leaves the station, and no persons are allowed in the station entrance, to avoid injury.
- The system is not to be played with.

Intended use (I)

The product has been designed as an exhaust removal system using the Grabber® coupling system. Using the product for other purposes is considered contrary to its intended use. The manufacturer accepts no liability for any damages or injury resulting from such use. The product has been built in accordance with state-of-the-art standards and recognized safety regulations. Only use this product when in technical perfect condition in accordance with its intended use and the instructions explained in the user manual.

	WARNING
	Do not attempt installation of this system unless you are familiar with the necessary tools, equipment, utility connections and potential hazards. Installation should be performed only by a qualified service provider. Failure to do so could result in reduced performance of the unit, serious personal injury or death.

	WARNING
	PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing and installing the system. Failure to do so could result in minor personal injury.

Technical specifications

The specifications given in this manual must not be altered. If the hose is damaged please contact you supplier for service. When the Magnetic Grabber® or the tailpipe connector are damaged please contact you supplier for service.


Modifications



Modifications of (parts of) the system / product is not allowed.

Product combinations

When the product is used in combination with other products or machines the safety instructions in this manual will remain valid as well as the safety instructions in the manuals of the other combined products.

(1) The "intended use" in accordance with EN 12100-1 is the use of he technical product in accordance with the manufacturers description including its statements in the sales brochure. In case of doubt, this is of use, which can naturally be derived from the design, construction and operation of the product. Intended use also includes compliance with the instructions in the manual.

	WARNING!
	FIRE HAZARD! Never use the product for: Extraction i.e. filtering of sigaretes sigars, oil rags or any other burning particles, objects or acids.

 	CAUTION!
	Please apply and use the pre-described and normal personal protection devicess during installation and during service of the system in order to avoid injuries. This also applies to the persons who enter the work area during installation or service activities.

Installation

- The installation of the products should only be performed by trained and authorised persons. For other persons and to be trained persons the products should only be handled under supervision of a responsible and authorised person when installing.
- Please use appropriate lifting materials and equipment when working in an area over 2m / 6.5 feet.
- Please ensure that, on the side of the vehicle where the system is installed, no persons are present in an area of 1 (one) meter under and / or around the STR system and / or between the vehicle and the entry / exit door when the vehicle exits the building. This way possible injuries can be avoided by a possible backwards motion of the Grabber® in the direction of the station and park position.
- Never install the product in front of entries, exits or passage ways which are to be used by emergency services.
- Check before installation if the structure of the wall / roof is stable enough to hold the components which are to be attached to it.
- Use common sense. Stay alert and keep your attention to your work. Do not use the product when you are under the influence of drugs, alcohol or medicine.
- Air, which might contain health hazardous components, such as chrome, Nickel, Beryllium, Cadmium, Lead etc. should never be recycled. This type of air must always be removed from the working area.

Use

- Inspect the product and check for damages. Verify the functioning of the safety features.
- Check the working area. Please keep unauthorised persons away from the working area.
- Protect the product against water and humidity.
- Make sure the room is always sufficiently ventilated; this applies especially to confined spaces.
- Make sure that the workshop, in the vicinity of the product, contains sufficient approved fire extinguishers if any electronics, such as control boxes, are used.
- The user of the product always has full responsibility for the correct execution of the safety guidelines and instructions. These are all the safety guidelines and instructions which apply to the use of the system.

Service, maintenance and repairs

- Observe the maintenance intervals given in this manual. Overdue maintenance can lead to high costs for repair and revisions and can render the guarantee null and void.
- Always use tools, materials, lubricants and service techniques which have been approved by the manufacturer. Never use worn tools and do not leave any tools in or on the product.
- Safety features which have been removed for service, maintenance or repairs, must be put back immediately after finishing these jobs and it must be checked that they still function properly.
- Please ensure that no vehicle enters or exits the station during the service, maintenance and repair activities.

Tools

These tools are needed to install the Plymovent System:

- Power drill
- Battery operated power drill
- Allen key set
- Phillips screwdriver set
- Measuring tape

Please note that additional tools and machines may be needed depending on the installation situation (installation height, space available etc).

5. CE DECLARATION

CE declaration of conformity for machinery

"We, Plymovent Exhaust Extraction GmbH, Redcarstraße 36, 53842 Troisdorf, Germany, herewith declare, on our own responsibility, that the product(s):

- Straight Track Rail system STRM


is/are in conformity with the following harmonized standard(s) and/or other such normative documents and amendments, if any:


DIN 31000:2011
DIN EN ISO 12100:2011
AfPS GS 2014:01 PAK

Troisdorf, 30-03-2017



C. P. Janssen
Product Manager Exhaust Extraction

	ATTENTION! After shutting down the ventilation system wait minimal 10 seconds before handling the system and products when performing service, maintenance and / or repairs.
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	ATTENTION! Service, Maintenance and Repair activities shall only be performed (in line with TRGS 554) by authorized, trained and qualified personnel taking into account the applicable working practices and safety regulations.
---	---

6. AREA OF USE

The STR-Magnetic system is used in fire and rescue stations where there are multiple vehicles parked behind the exit door waiting an emergency call.

SBT is designed to handle exhaust gas temperatures of +150°C / 302F (short time +170°C / 338F).
USA hose is 400°F continuous and 500°F intermittent.

Do not bend over in the direction of the tailpipe when positioning the Grabber® to the vehicle. Exhaust gasses can enter the breathing zone of the user.

ATTENTION



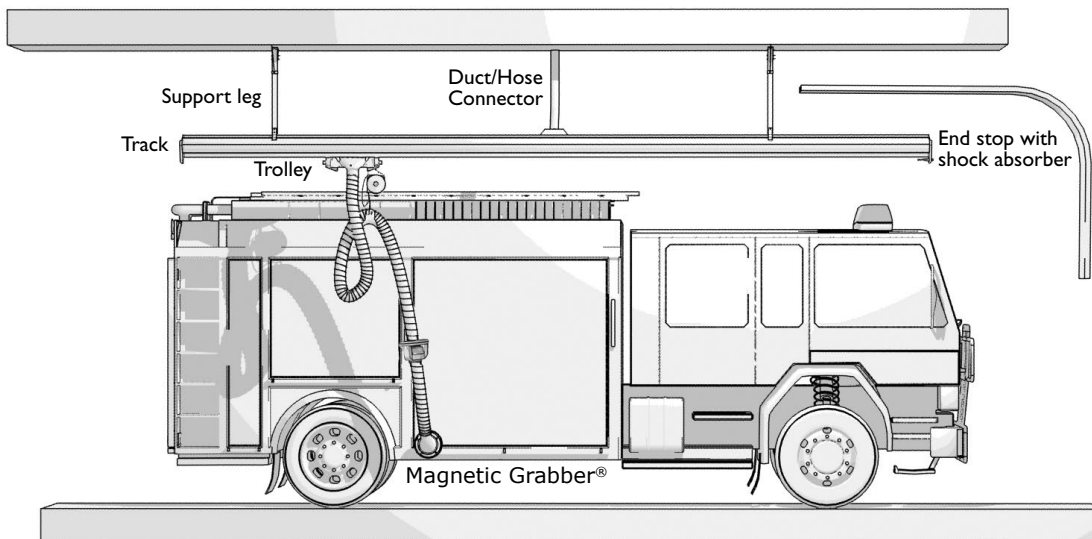
The STR-Magnetic System is designed to operate under standard vehicle performance conditions. Re-generation is not considered to be a standard vehicle performance condition.

WARNING!



Do not put hands or other body parts in the Grabber®.

Side view



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

Support leg

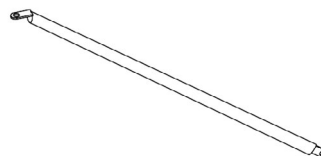
The aluminium support leg is used for both vertical and horizontal mounting. The standard length is 19' (5790 mm) and it has to be cut to proper lengths. The dimension is 2" x 2" x 0,1" (50x50x2,5 mm).



Prod. SBT-SL
Art. Nr. 8120-1011

Side brace

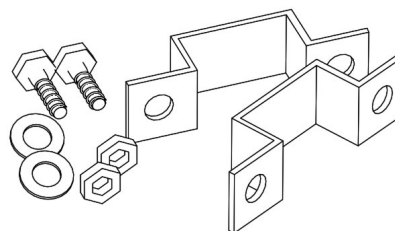
There are three different lengths available, 20" (500 mm), 30" (750 mm) and 6' (1800 mm). The brace can be mounted separately or in pairs using the same brackets.



Prod. No SBT-SB-S, 500mm Art. Nr. 8140-1011
Prod. No SBT-SB-M, 750mm Art. Nr. 8141-1011
Prod. No SBT-SB-L, 1800mm Art. Nr. 8142-1011

Side brace clamp kit

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



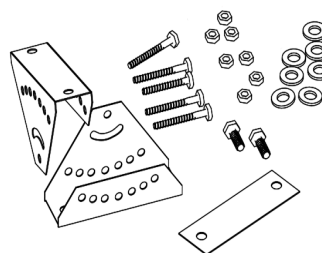
Prod. No. SBT-SBCK
Art.Nr. 8130-1011

Adjustable mounting kit (vertical)

The two brackets are similar. 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".

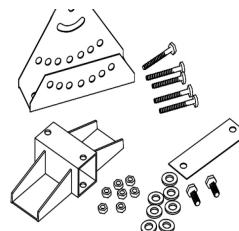
Then adjust the bracket to an exact position and fix it by drilling a third hole "3", using the most centred hole from the top row.



Prod. No. SBT-MKV
Art. Nr. 8150-1011

Adjustable mounting kit (horizontal)

The bracket that shall be used against the wall is the same as for the vertical kit (see above) but on the track side there is a new bracket which is adjustable in relation to the support leg.

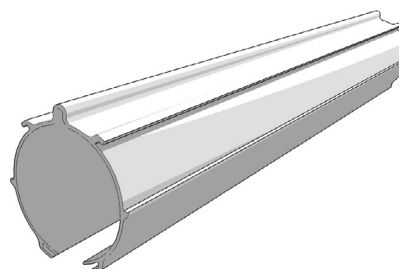


Prod. No. SBT-MKH
Art. Nr. 8160-1011

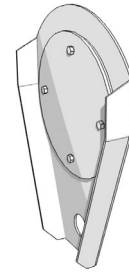
When the bracket is fixed in the right position two through holes in the support legs two holes are drilled through the support leg using the bracket as a template.

STRTrack

The STR track is delivered in 2 lengths:
STR-Track 19' / 5790mm
STR-Track 1/2 9,5' / 2895mm



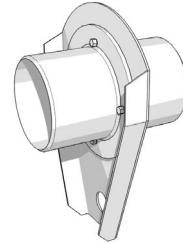
Prod. STR Profil 5790 Art. Nr. 20200-1011
Prod. STR Profil 2895 Art. Nr. 20205-1011

Closed end stop

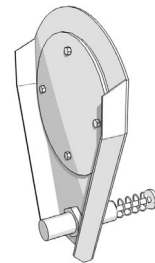
Prod. RRBC Art. Nr. 8925-1011

Duct connection end stop 160mm/6"

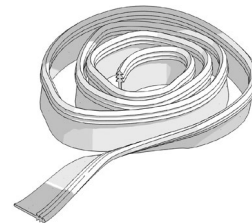
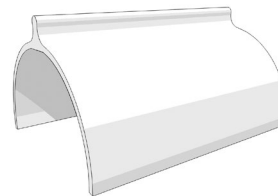
Duct connection for back of track, max length of track 6m



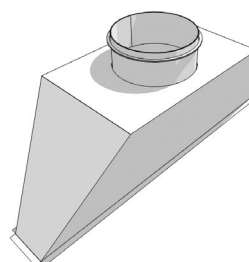
Prod. RRCE-160 Art. Nr. 8940-1011

Round rail industrial end stop

Prod. RRIBC Art. Nr. 8922-1011

Low friction rubber sealProd. RRRS-X
Art. Nr. 20250-1011**Rail splice**Prod. RRS
Art. Nr. 40030**Duct connection Ø 200mm/8"**

For track length over 6m

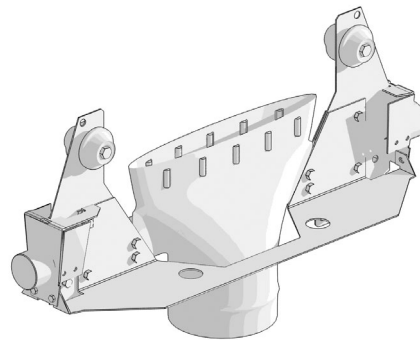
Prod. RRDC-200
Art. Nr. 8950-200

Balancer

Prod. BR-300
 Art. Nr. 90100-1011
 Optional BR-200
 Art. Nr. 90120-1011

Internal Trolley

Prod.		Art. Nr.
- ICCA-100	100mm / 4"	30448-1011
- ICCA-125	125mm / 5"	30453-1011
- ICCA-150	150mm / 6"	30458-1011

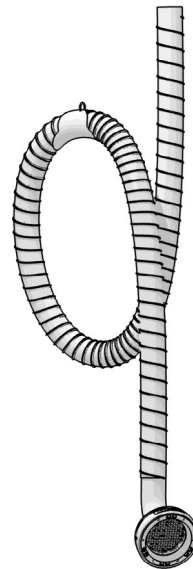
**Hose kit**

There are 3 hose kits available:

- Hose temp.resistance +150°C.
- Hose diameter is 100 mm / 4"
- Length 6m / 19.6 feet
- Magnetic Grabber® 75mm / 3" - 100mm / 4"- 125mm/ 5"

The different hose packages which contain the following parts:

- Transition parts
- Exhaust removal hose (+150°C / 302 F)
- USA hose is 400°F continuous and 500°F intermittent.
- Hose saddle
- Safety disconnect handle
- Magnetic Grabber® nozzle
- Magnetic Grabber® connector



Prod. No.	Art. No.
STRM-HPAM-100-6-75	88805-1011
STRM-HPAM-100-6-100	88806-1011
STRM-HPAM-100-6-125	88807-1011

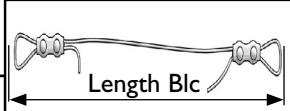
8.

INSTALLATION

Mounting instructions;

1. Determine the installation height of the rail (measured from the bottom of the rail).
 2. Determine the recommended distance from the rubber end stop to the door in the "installation table".
 3. Determine the recommended balancer locking cable (BLC) length in the "installation table".
 4. After installation, fine tune the BLC and / or the rubber end stop if the disconnection point is not 10" from the door.
- If a disconnection point closer to the door is preferred, the position of the end stop can be changed.

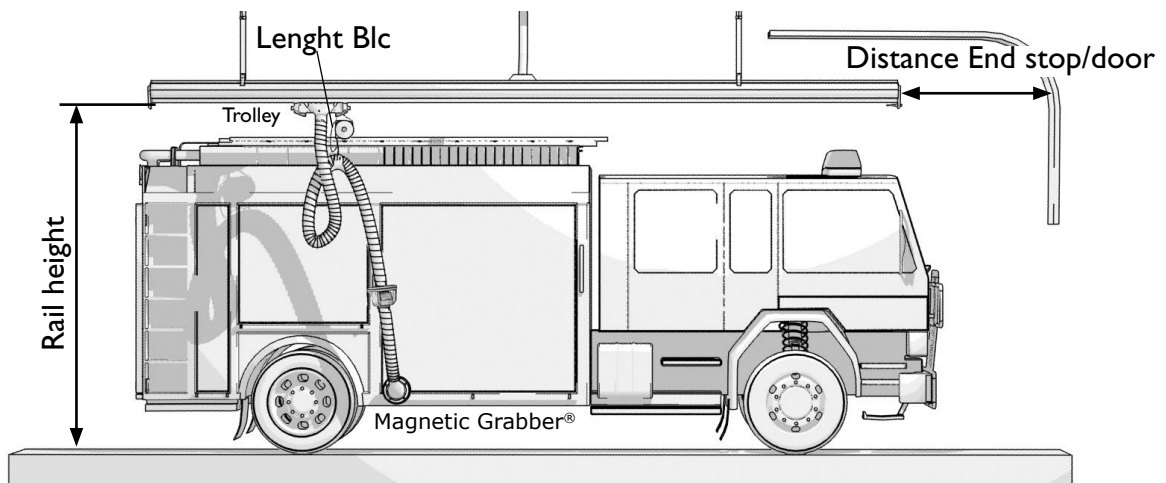
Installation table:



Rail height			Distance End stop / door		Length Blc	
Feet	m		Feet	m	Inch	cm
10	3	min	5,0	1,5	23,8	60,5
		Recomended	5,5	1,7	26,9	68,4
		max	6,0	1,8	30,4	77,2

Rail height			Distance End stop / door		Length Blc	
Feet	m		Feet	m	Inch	cm
13	4	min	6,0	1,8	23,9	60,8
		Recomended	6,5	2,0	26,7	67,9
		max	7,0	2,1	29,7	75,4

Rail height			Distance End stop / door		Length Blc	
Feet	m		Feet	m	Inch	cm
16	5	min	7,0	2,1	24,4	61,9
		Recomended	7,5	2,3	26,9	68,4
		max	8,0	2,4	29,6	75,2



BACK-IN MEASUREMENT PROCEDURE

Please determine the position of:

1. Exhaust pipe
 2. Gate / Exit door.
 3. Distance Gate / Exit door vs the exhaust pipe.
- 1) Determine the location of the exhaust pipe (1) on the vehicle; which side of the vehicle it is positioned on. i.e. where does the exhaust exit the vehicle and that diameter does the exhaust pipe have?



Check if exhaust pipe modification is necessary, see: "Exhaust pipe modification procedure in this Product User manual".

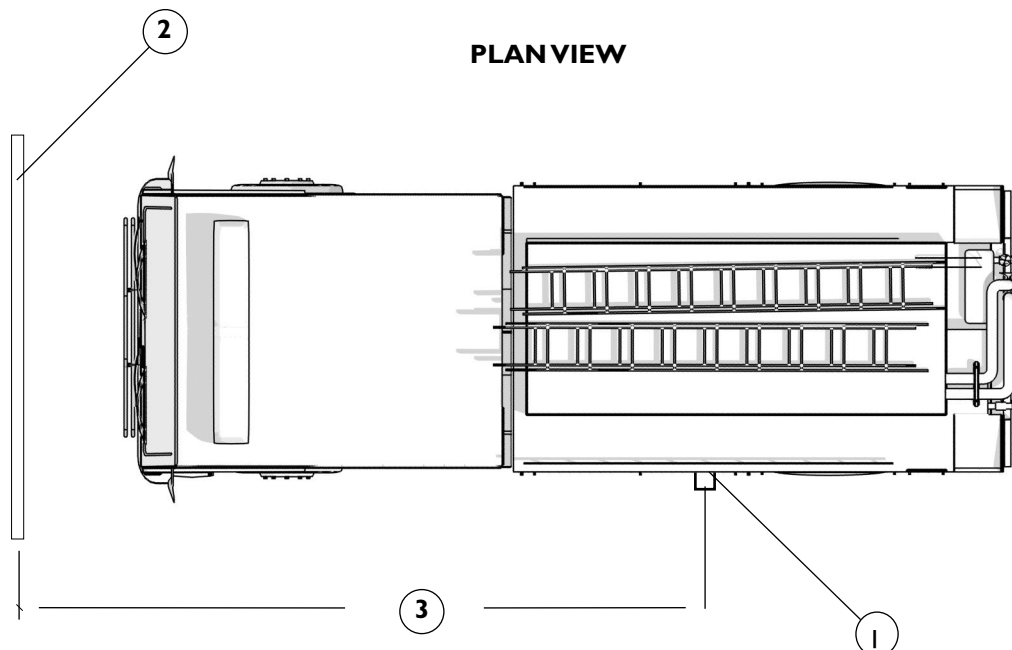
- 2) Measure the height and width of the gate (2).
Check what type of gate:
- Slidegate
 - Overhead gate
 - Other type

Check at what height the track can be installed.
The height should be in line with the specifications indicated in this manual in order to ensure correct product performance.

- 3) Measure the distance between the door and the exhaust pipe (3), this is the required minimal length of the STR-track. Check before installation that this is the minimum required length of the STR in Back-in application.

The distance from the end of the track to the door(s) must be in line with the installation table on page 9.

	WARNING
	<p>PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing unit. Failure to do so could result in minor personal injury.</p>
	CAUTION
	<p>Be sure to order the right Grabber® dimension. If a incorrect version is used on the tailpipe, the system could be damaged (too small Grabber®) or will dis-function (exhaust gasses can enter the premises)</p>



8.

INSTALLATION

DRIVE-THROUGH MEASUREMENT PROCEDURE

Please determine the position of:

1. Exhaust pipe.
 - 2.1 Entrance door.
 - 2.2 Exit door.
 3. Distance between Entrance door / Exit door.
- 1) Determine the location of the exhaust pipe (1) on the vehicle; which side of the vehicle it is positioned on. i.e. where does the exhaust exit the vehicle and that diameter does the exhaust pipe have?

Check if exhaust pipe modification is necessary, see: "Exhaust pipe modification procedure in this Product User manual".

2.1) and 2.2)

Determine the door height and width.

Measure the height and width of the gate (2).

Check what type of gate:


- Slidegate
- Overhead gate
- Other type


Check at what height the track can be installed.

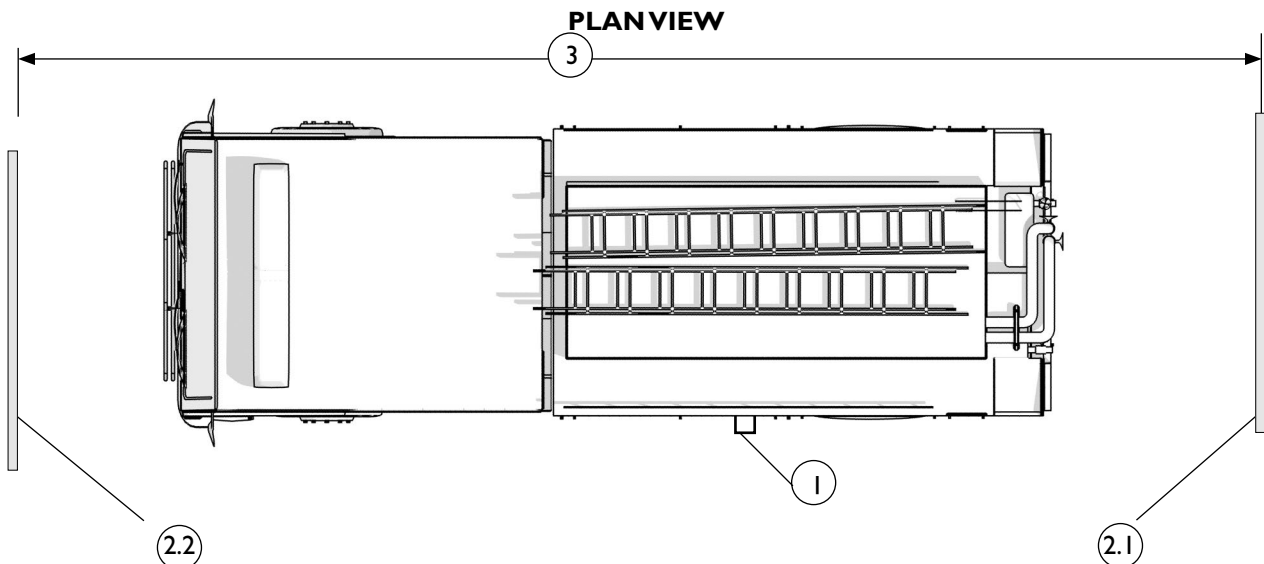
The height should be in line with the specifications indicated in this manual in order to ensure correct product performance.

- 3) Measure the distance between the entrance gate and exit gate minus two (2) times the distance between the end of the rail and the exit door.

The distance from the end of the track to the door(s) must be in line with the installation table on page 9.

WARNING	
	PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing unit. Failure to do so could result in minor personal injury.

CAUTION	
	Be sure to order the right Grabber® dimension. If a incorrect version is used on the tailpipe, the system could be damaged (too small Grabber®) or will dis-function (exhaust gasses can enter the premises)



STR-TRACK LOCATION PROCEDURE

1. STR-Track
2. Exhaust
3. Door
4. Track height
5. Distance to vehicle
6. Distance to exit door


a) The STR-track (1) is mounted at a height (4) between 3,5m / 11.5 ft and 4,5m / 15 ft over the floor on the side where the vehicles exhaust pipe (2) is situated.

b) There shall be at least 1,5m / 5feet (6) from the front of the truck to the door when the truck is in parked position.

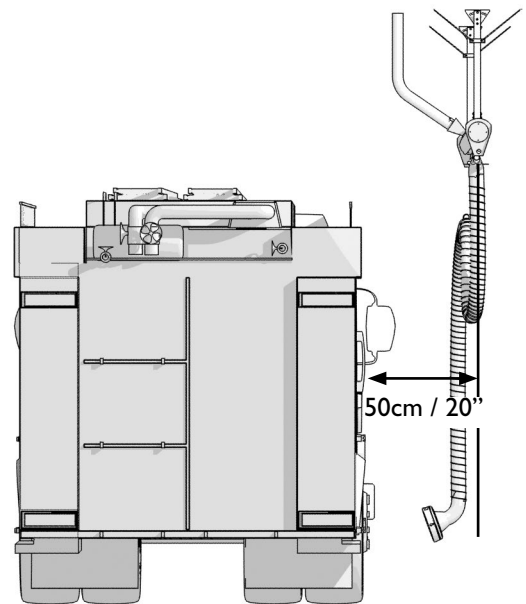
c) The track is preferably mounted 500mm / 20inch from the body of the vehicle. Position on the tailpipe side of the vehicle. Preferably the track is on or within the boundaries of the exit door.

d) The track is often mounted immediately under a sectional door with a clear height from the track to the door of 100mm / 4" to 150 mm / 6".

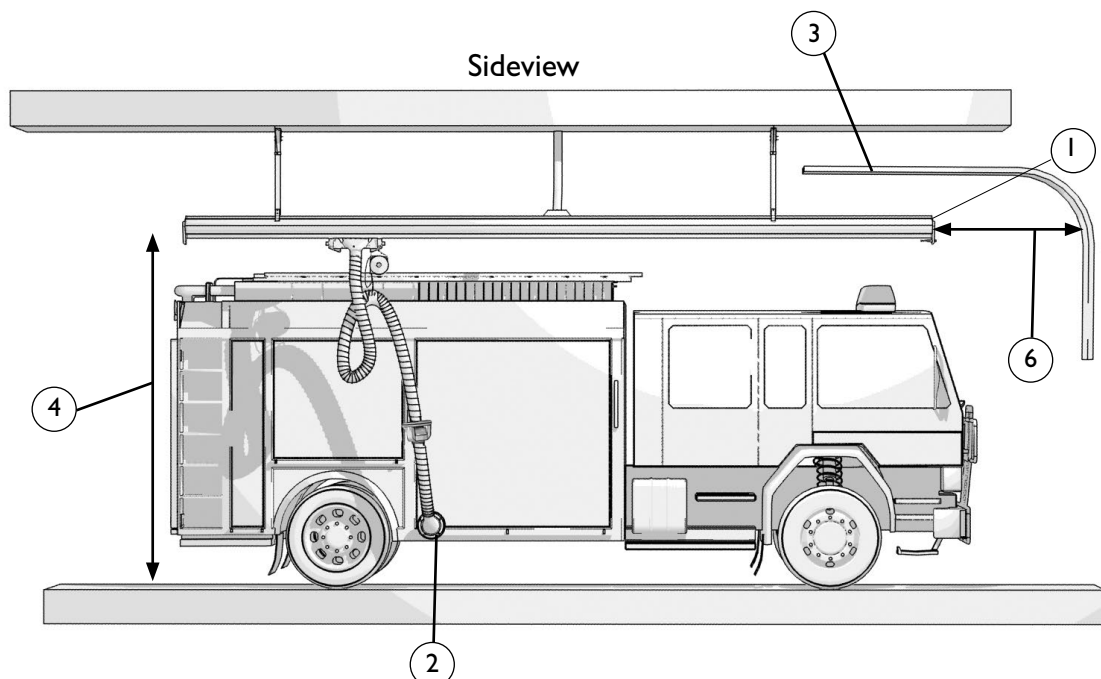
e) The recommended distance from the end of the track to the door(s) can be found in the table on page 9.

WARNING	
	<p>PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing unit. Failure to do so could result in minor personal injury.</p>

End view




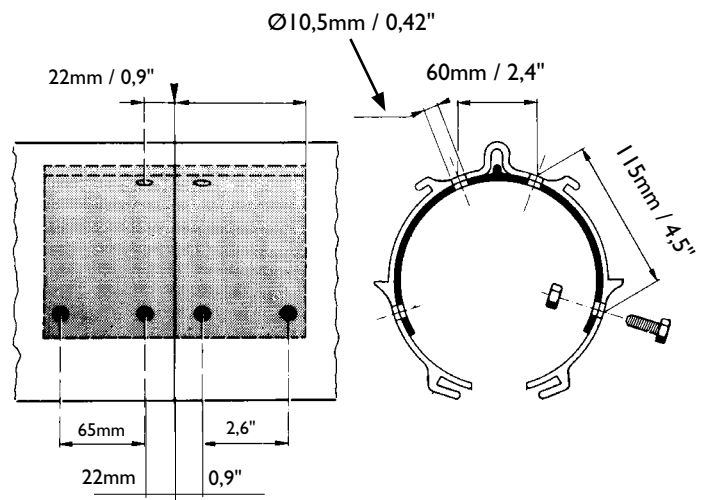
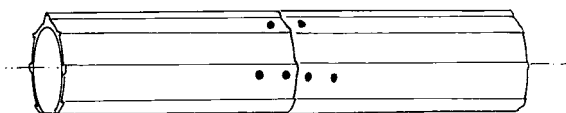
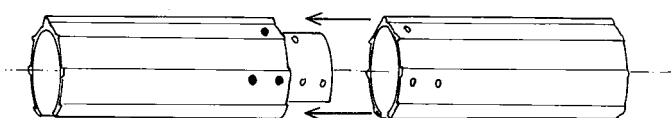
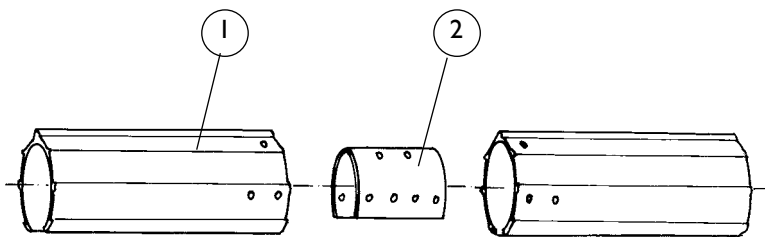
Sideview



SPLICING THE PROFILE

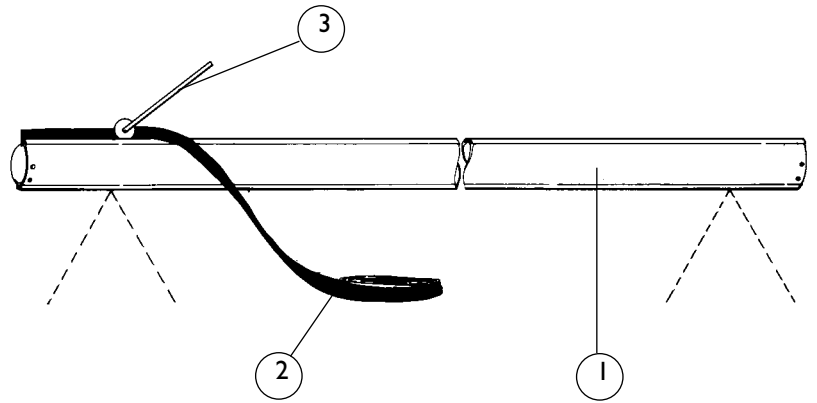
1. STR profile
 2. Splicing sleeve
- a) Put the components of the rail under the intended position on supports or similar with the open side downwards.
 - b) Line and fix the rail profiles so that the extended rail edges are joined to a continuous length.
 - c) Fix the splicing sleeve with a clamp or similar, drill according to the drawing below with a 10,5mm / 0,42" drill and mount the splicing sleeve to one of the rail profiles.
 - d) Assemble the other rail profile, straighten the splicing sleeve, drill and mount together. Every splice is mounted together with 12 pcs of M10x25 mm bolts.
 - e) Grind the edges inside the splice where the internal trolley will travel to achieve smooth running.

	WARNING
	PRODUCT MAY CONTAIN SHARP EDGES
	Use care when servicing unit. Failure to do so could result in minor personal injury.



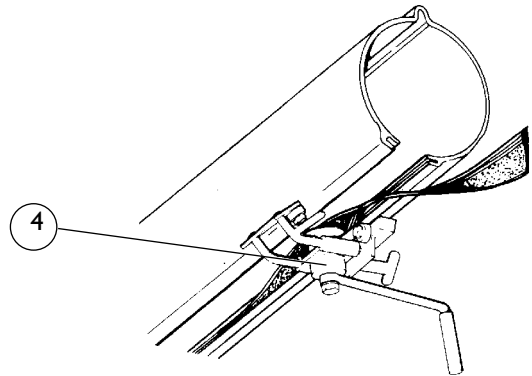
MOUNTING OF RUBBER SEAL

1. STR profile
2. Rubber seal
3. Tool no. 11600
4. Tool no. 11601



- a) Turn the rail profile with the opening upwards.
- b) If the seal must be joined it must be done before mounting. The rubber seal should overlap and be cut together with a sharp knife. The rubber seal ends are to be fixed together with glue: Loctite no. 495 or similar rubber glue.

	ATTENTION
NOTE! The rubber seal is to be greased with liquid soap before mounting.	

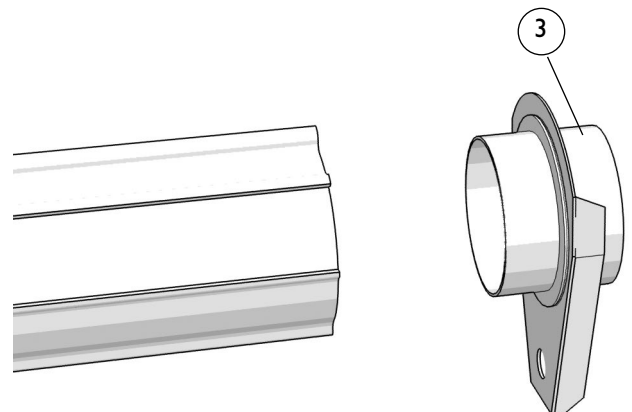
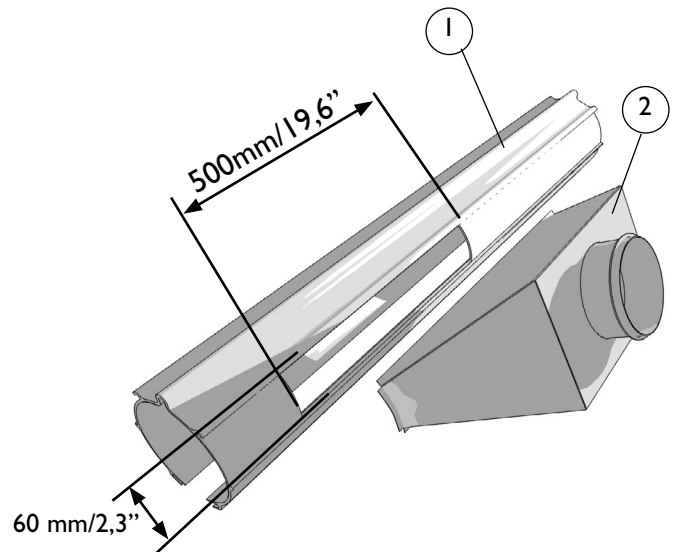


- c) The rubber seal is mounted with tool no. 11600.
- d) The rubber seal is easily mounted with tool no. 11601, the rail profile hanging in its support legs.

DUCT CONNECTION

1. STR profile:
2. Connection socket, $\text{Ø}200\text{mm} / 8''$:
3. End socket with duct connection, $\text{Ø}160\text{mm} / 6,25''$:

- a) The rail is connected to the fan and the duct system by the connection socket (2) or the end connection socket (3).
- b) The connection socket is mounted by cutting a hole $500 \times 60\text{mm} / 20 \times 2,4''$ in the rail profile's side.
- c) The connection socket is mounted with a rivet or self drilled screws and sealed with elastic compound.
- d) The end socket with duct connection, $\text{Ø}160\text{mm} / 6,25''$, is mounted according to "Mounting instruction; End sockets".



	WARNING
PRODUCT MAY CONTAIN SHARP EDGES	
Use care when servicing unit.	
Failure to do so could result in minor personal injury.	

8.**INSTALLATION****MOUNTING OF END SOCKETS AND SHOCK ABSORBER**

1. STR profile:
2. End socket with hydraulic shock absorber
3. End socket

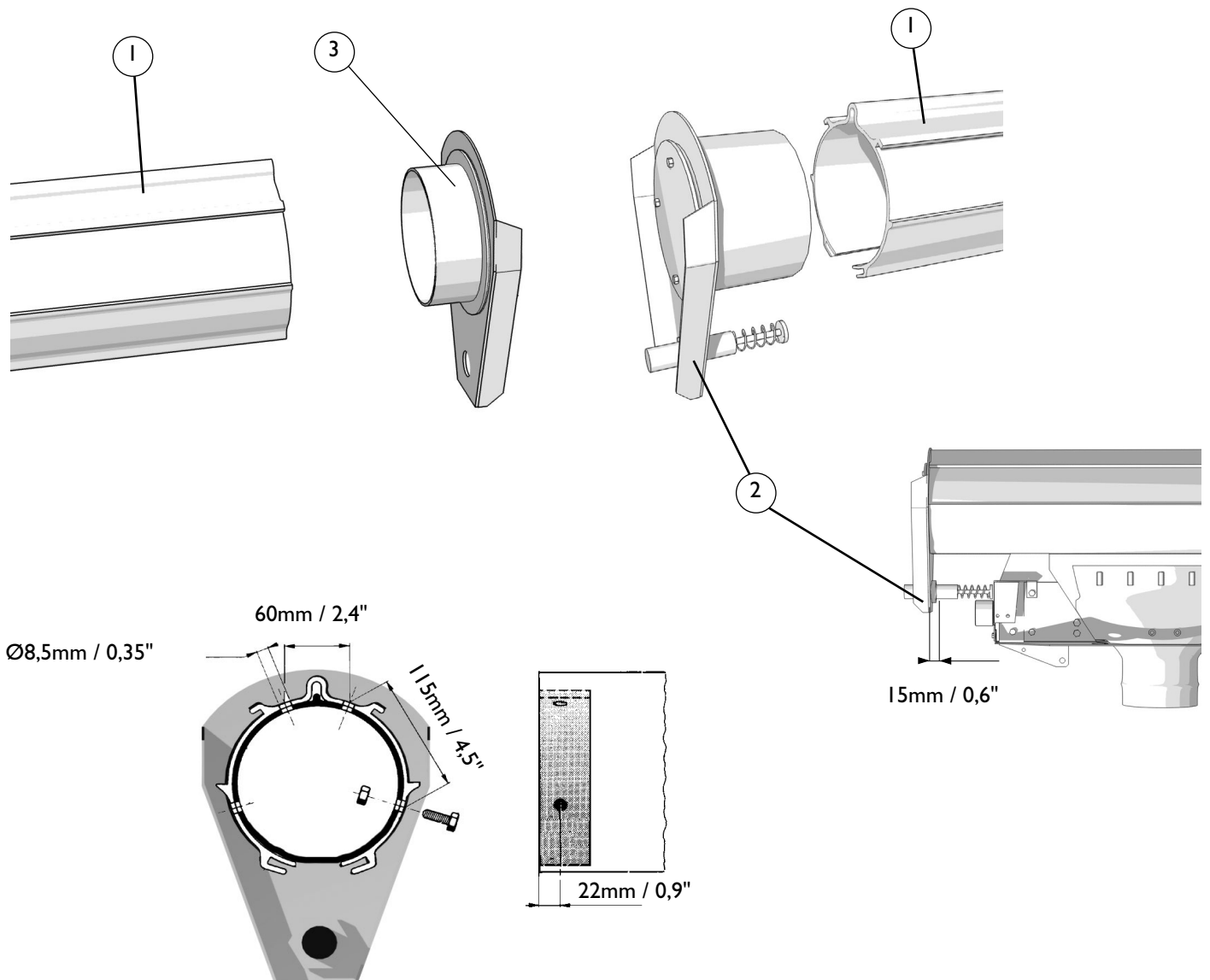
**WARNING**

PRODUCT MAY CONTAIN SHARP EDGES
 Use care when servicing unit.
 Failure to do so could result in minor personal injury.

Position the end sockets in the centre.

a) Drill with a 8.5 mm drill according to the drawing below and mount end socket with hydraulic shock absorber at the exit side and mount end socket with cover or end socket with duct connection with 4 pcs of M8x20 bolts and nuts.

b) The hydraulic shock absorber mounted according to the picture (2).



8.**INSTALLATION****MOUNTING SUSPENSIONS TO THE RAIL**

1. STR profile:
2. RRTS Top suspension
3. RRSS Side suspension

**WARNING**

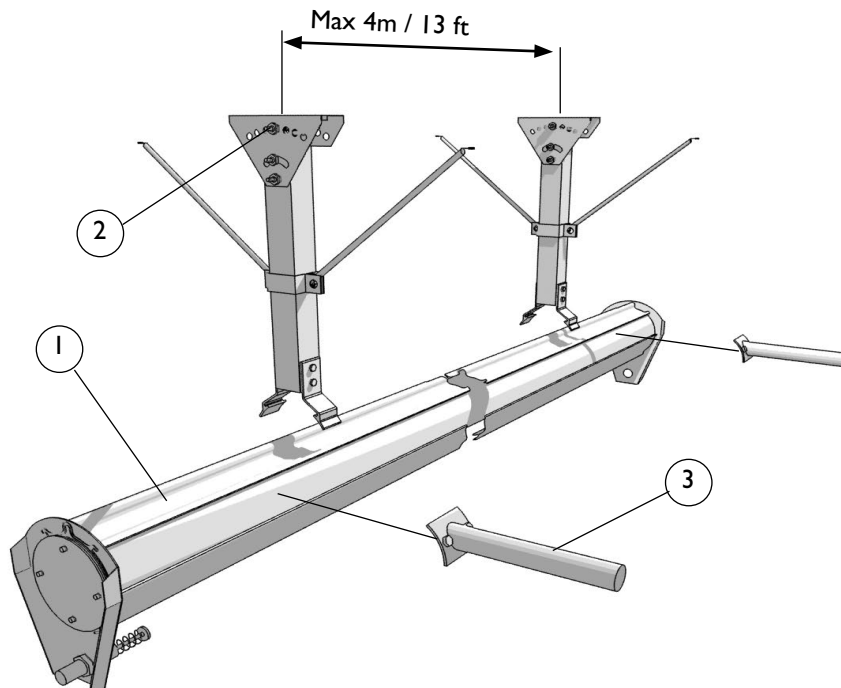
PRODUCT MAY CONTAIN SHARP EDGES
Use care when servicing unit.
Failure to do so could result in minor personal injury.

Top Suspension

- a) Position the STR-Rail correctly on the floor, find out the proper height/length of support leg and cut the Support Leg (STR-SL).
- b) Pre-drill 5mm / 0,2" and then 10,5mm / 0,42".
- c) Mount the Top suspension upper bracket on the Support leg. 2 pcs M10x 70 bolts and nuts.
- d) Mount Top Suspension lower bracket to the Support Leg without tightening the bolts.
- e) Mount then the Support Leg to the roof or to beams.

Side Suspension

- a) position the STR-Rail correctly on the floor.
- b) Attach the suspension system to the roof.
- c) Plumb the position of the supports and attach the Side Suspensions to the rail.



8.**INSTALLATION****LIFTING THE RAIL**

1. STR Rail
2. Vertical suspension
3. Horizontal suspension




Our recommendation is to lift a continuous length of rail up to 30m / 100 ft max. with a max. distance between the lifting points of 10m / 33ft.

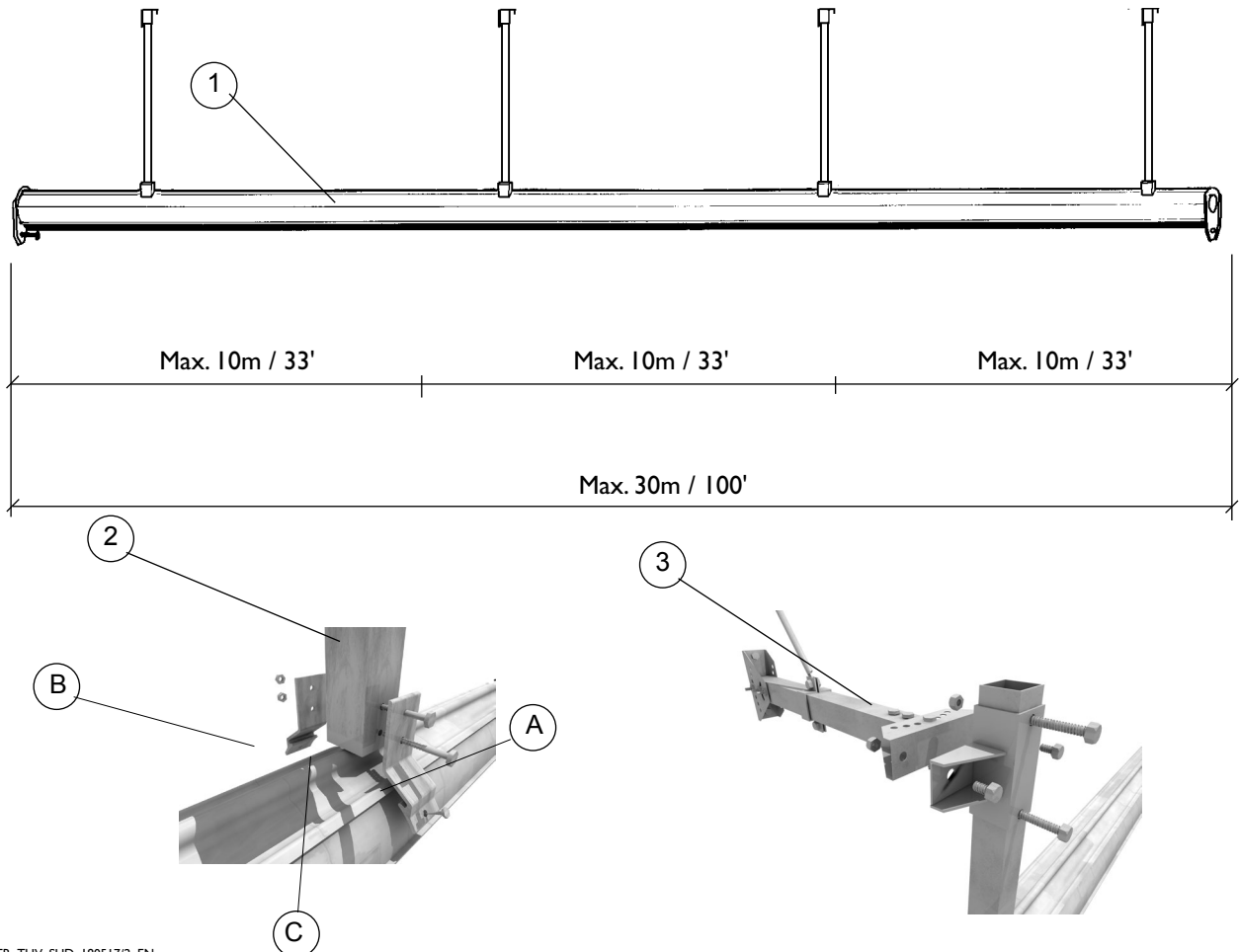
Top suspension

- a) Lift the rail according to the instruction and fix the bolts on the RRTS lower bracket (A).
- b) When the rail is in the right position fix the suspensions with the bolts (B).
- c) Fasten the suspensions by the security bolt (C).

Side suspension

- a) The legs is connected to the vertical support legs, using couplings.
- b) Adjust the rail both vertically and horizontally to get it level.
- c) Tighten the couplings thoroughly and screw a safety bolt (not only if required always do this), drill and screw a safety bolt through the coupling and the support leg.

	<p style="text-align: center;">ATTENTION</p> <p>Always use approved lifting equipment. The lifting equipment should only be operated by a certified operator.</p>
	<p style="text-align: center;">ATTENTION</p> <p>NOTE! It is very important to lift the rail evenly to avoid damage to the splicing sleeves.</p>
	<p style="text-align: center;">WARNING</p> <p>PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing unit. Failure to do so could result in minor personal injury.</p>



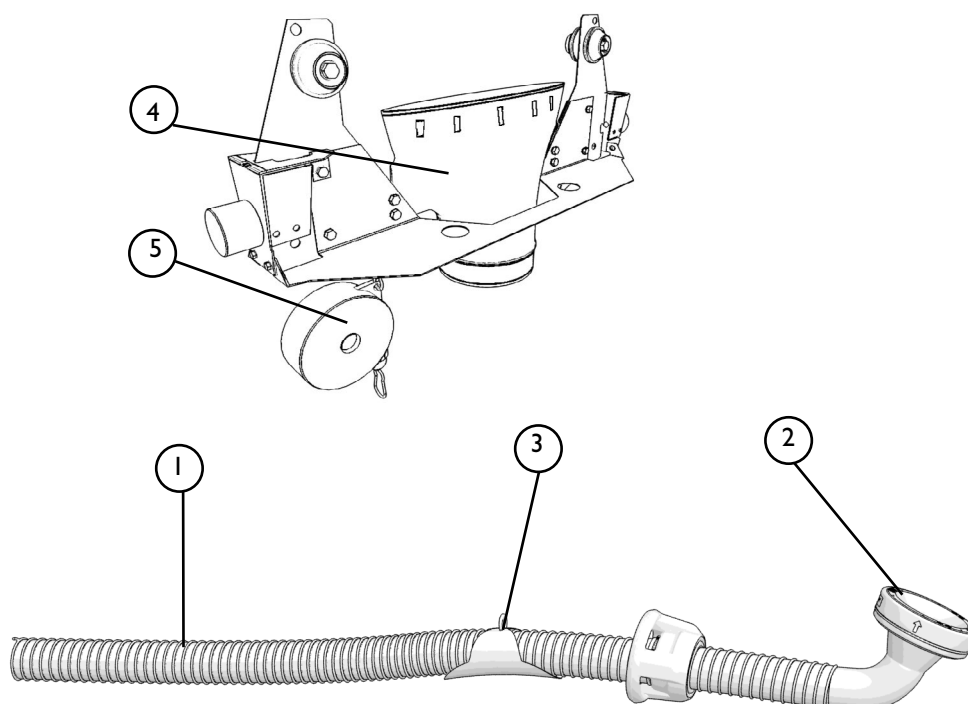
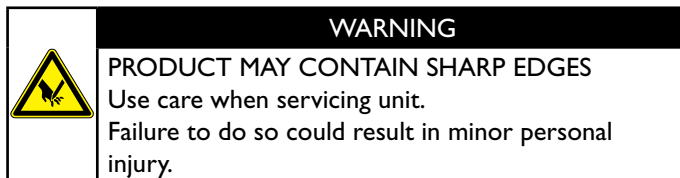
HOSE ALIGNMENT PROCEDURE

1. STR-profile
2. Grabber ®:
3. Saddle
4. ICCA Trolley
5. Balancer:

The hose package (1) should be aligned before the assembly as follows:

The exhaust hose assembly shall be aligned at installation as follows:

1. The exhaust hose assembly is straightened out on the floor with the Magnetic Grabber® pointing upwards against the door and facing upwards.
2. Reposition if necessary and align the Magnetic Grabber® (2) and the hose saddle (3) in the show position.
3. After hose alignment mount the hose (1) on the hose connection with the Magnetic Grabber® pointing upwards against the door.
4. Connect the STR hose to the trolley using a hose clamp. Also install the balancer using the caribiner hook, including the safety chain and Balancerlocking cable to the trolley.
5. Slide the completed trolley in the rail with the balancer facing the driving direction / exit door.



HOSE/GRABBER HANGING PROCEDURE

1. STR profile:
2. STR profile height from floor (3-5m / 10-16'):
3. Hose loop height:
4. Magnetic Grabber® height from the floor:
5. Hose Saddle:

a) The STR profile's height from the floor is an important factor when determining the hose loop height.

b) The hose loop height must not be lower than 2m / 6.5 feet to prevent it from disturbing the personnel using the station.

c) The hose saddle shall be positioned approximately on half the distance between The STR Magnetic Grabber® and the suction trolley.

d) The height (8) of the Grabber® nozzle should be 25cm / 10" - 30cm / 12" from finished floor.



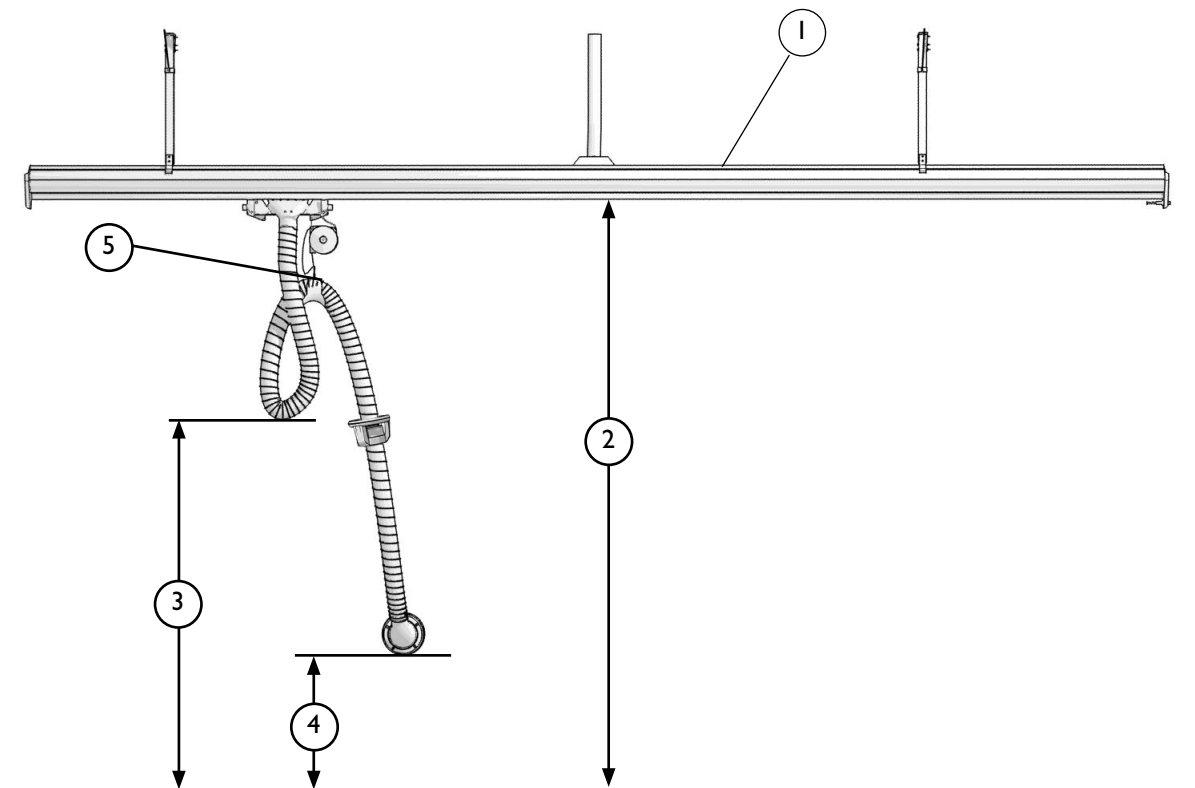
ATTENTION

A manual damper can / should be added to tune the airflow through the STR rail and Grabber®.



WARNING

PRODUCT MAY CONTAIN SHARP EDGES
Use care when servicing unit.
Failure to do so could result in minor personal injury.



8. INSTALLATION


PC-500 PRESSURE SWITCH INSTALLATION PROCEDURE

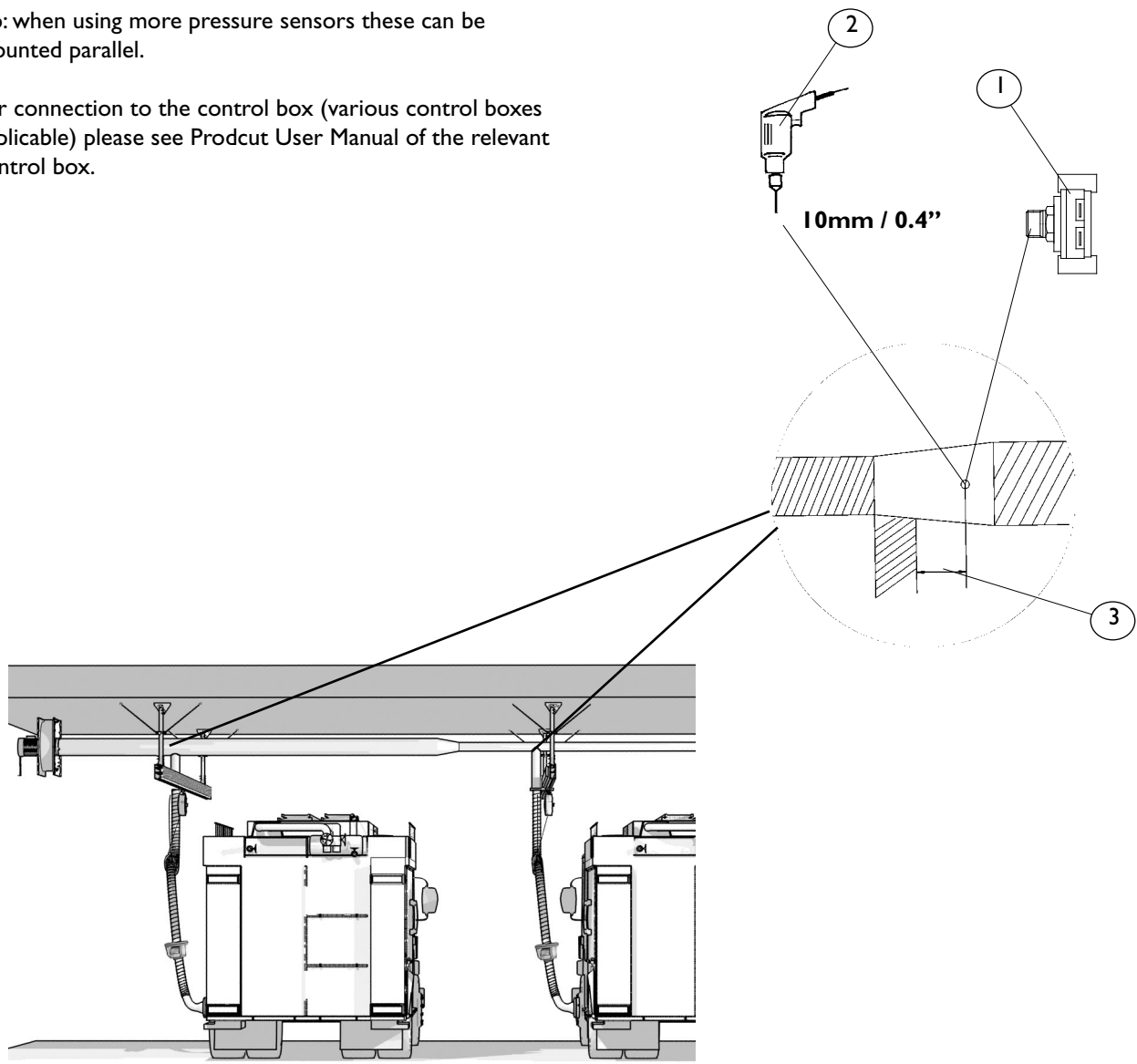
1. PC-500 pressure switch
2. Drilling machine with 10mm / 0.4" drillbit
3. Measurement from ducting/hose approx. 100mm / 4"

- a) Drill a hole in the ducting using a drilling machine (2) above the riser bracket.
- b) Mount the pressure switch (1) by screwing it into the ductwork.
- c) Turn as long as to the moment that the sensor is tight and both connection points are upwards.
- d) Connect the electric wires with the supplied connection tags. Or connect the PC-500 pressure switches to the wireless transmitters.

Tip: when using more pressure sensors these can be mounted parallel.

- e) For connection to the control box (various control boxes applicable) please see Product User Manual of the relevant control box.


	WARNING
	PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing unit. Failure to do so could result in minor personal injury.




9. MOUNTING INSTRUCTION - TRIMMING PROCEDURE

INSTALLATION TAILPIPE CONNECTOR

1. Distance exhaust pipe-truck body
 2. Exhaust pipe end
 3. Tailpipe adapter/connector
 4. Tailpipe bracket
- a) The distance between the middle point of the exhaust pipe and the body of the vehicle (1) must be at least:
- 75mm / 3" in all directions when using a 75mm / 3" system
 - 100mm / 4" in all directions when using a 100mm / 4" system
 - 125mm / 5" in all directions, when using a 125mm / 5" system
- This is checked before the tailpipe connector is attached.
- b) The exhaust pipe end (2) must be cut in a 90° angle and all sharp edges must be grinded off.
- c) The Tailpipe adapter/connector (3) is positioned on the exhaust pipe. When attached the minimum space between the tailpipe connector and the body of the vehicle should now be at least 15 mm / 0.6" from the top and both sides of the tailpipe adaptor.
- d) The exhaust pipe clamp (4) must be positioned within 500mm / 20" from the exhaust pipe end (2). If not, the optional tailpipe bracket must be installed. (see: option: installing the tailpipe brackets)
- e) The exhaust pipe must be in a 90° angle to the truck body with a max inclination of 5°.

	WARNING
	PRODUCT MAY CONTAIN SHARP EDGES Use care when servicing unit. Failure to do so could result in minor personal injury.

	ATTENTION
	Please ensure that the position of the tailpipe connector is in line with EN 1846-2 which indicates the minimal distance from tailpipe connector to the road surface (differs per type of vehicle).

- f) The distance between the exhaust pipe and the wheel (6) must be minimum 300mm / 12".
- g) The tailpipe adapter shall be installed flush with the body of the vehicle in accordance to NFPA1500. And be in line with EN-1846-2 regarding minimal clearance to the road.

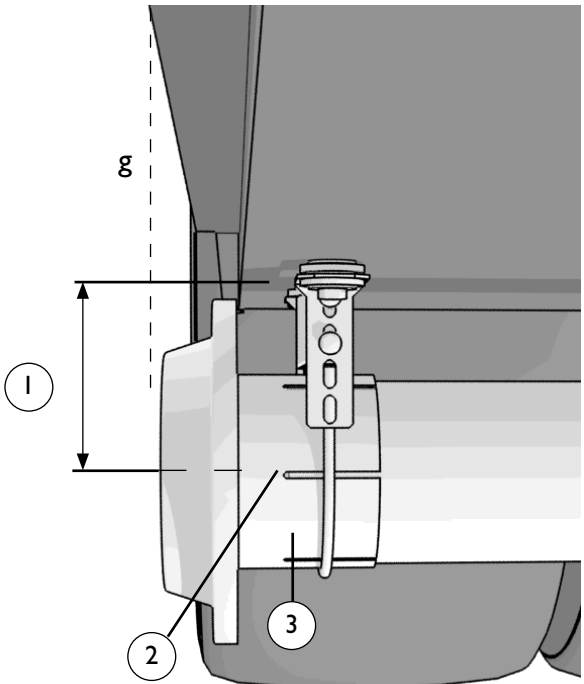
EXHAUST PIPE MODIFICATION PROCEDURE:

OPTION: INSTALLING THE TAILPIPE REDUCER.
 In case you want to install a 125mm / 5" connector and the vehicle uses a 4" (100mm) tailpipe you will have to install the tailpipe adaptor. the tailpipe adaptor is a part that adapts the 4" (100mm) tailpipe into a 5" (125mm) tailpipe to which the next part, the tailpipe connector can be installed.

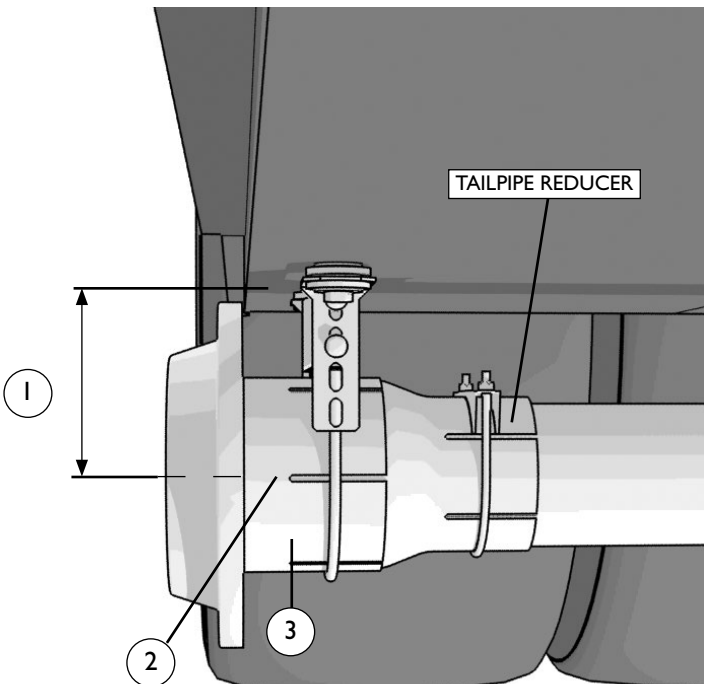
The tailpipe adaptor is positioned over the existing tailpipe and fixed using a 4" (100mm) tailpipe clamp which is included with the part. Product number: Please see your FIRE Price list for the correct product number.

OPTION: INSTALLING THE TAILPIPE BRACKET
 In order to ensure the tailpipe adaptor and/or tailpipe connector is mounted firmly to the vehicle chassis it's recommended to use the tailpipe bracket . It has to be judged per vehicle and installation if this bracket is not needed.

TRUCK BODY
(image for explanation only)



TRUCK BODY
(image for explanation only)



9. MOUNTING INSTRUCTION - TRIMMING PROCEDURE

BALANCER SETTING PROCEDURE

1. Balancer
2. Balancer locking cable (BLC)
3. Balancer safety chain

The balancer is factory delivered at a pre-tension. In order to make sure the balancer is functioning optimally please follow the following procedure:

a. After every component of the system is installed, the balancer pre-tension must be adjusted to its final setting. Increase or decrease the spring tension until the rubber stop loosely hits the balancer housing.

b. Add two more "quarter-clicks" to ensure full retraction of the balancer cable and hosedrop.

It's possible the balancer tension needs to be fine-tuned after the total system is installed and a test run is done. Ideally, 15cm / 6" of the Balancer cable should be exposed when the MG nozzle is connected the vehicle.

Problem:

The Magnetic Grabber® nozzle hits the ground after disconnection.

Solution:

Increase the balancer tension with 1 "quarter-click".

Problem:

The "swing-back" of the hosedrop after disconnection is too extreme.


Solution:

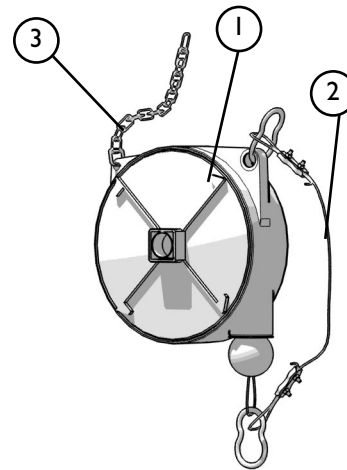
Decrease the balancer tension with one "quarter-click".

INSTALLING THE BALANCER LOCKING CABLE

The BLC's primary function is to control the point of disconnection. As the hose reaches it's maximum length the BLC will bottom out, in turn pulling the MG nozzle from the moving vehicle.

a. Extract the Magnetic Grabber® nozzle up to 10" +/- 2" / 25cm +/- 5cm from the door and 20"/0.5m from the ground (tailpipe height).

	WARNING
The Balancer is delivered under tension. Be carefull unwinding this balancer.	



b. Measure the shortest distance between the two snap-hooks of the balancer.

c. Adjust the balancer locking cable to the measured distance.

d. Install the balancer locking cable between the two snap-hooks.

Please see page 9 for detailed measurements and advices.

SAFETY CHAIN

It is imperative that the safety chain is mounted securely to the trolley/crab .

9. MOUNTING INSTRUCTION - TRIMMING PROCEDURE

SAFETY DISCONNECT HANDLE

Function:

This safety coupling opens in case of misuse of the system or failure of the disconnection and can always be re-used.

Adjustment:

The Safety Disconnect Coupling is delivered complete assembled with a preset springload. The standard setting on delivery gives you a release force at 450N.

Release Force

You can adjust SDCA-Coupling by using different springs. These springs however are not standard and if you require such springs please contact your Plymovent representative.

Article name	Article number
SDCH-Pneumatic 100mm/ 4"	90550-1011
SDCH-Pneumatic 125mm/ 5"	90555-1011
SDCH-Magnetic 100mm/ 4"	90560-1011
SDCH-Magnetic 125mm/ 5"	90565-1011

WARNING!

After the Safety Disconnect has released please check if all spring blocks in the product are free of damage and functioning correctly. Any damaged parts should be replaced and the correct functioning should be verified. If not functioning correctly the Safety disconnect can potentially cause damage to person or property.



TAILPIPE MODIFICATION OPTIONS

Introduction

In some cases it might be necessary to divert the exhaust flow from the tailpipe to the side of the vehicle. The Magnetic Grabber® connector can then be installed to this modification.

In order to ensure this is done right please consult the manufacturer of the vehicle. In order to modify a tailpipe it might be necessary to combine a number of options.

The example to the right you can see the tailpipe in combination with a tailpipe reducer pack, a 45° bend, and a tailpipe support bracket. This to support a correct and steady installation of the Magnetic Grabber® connector

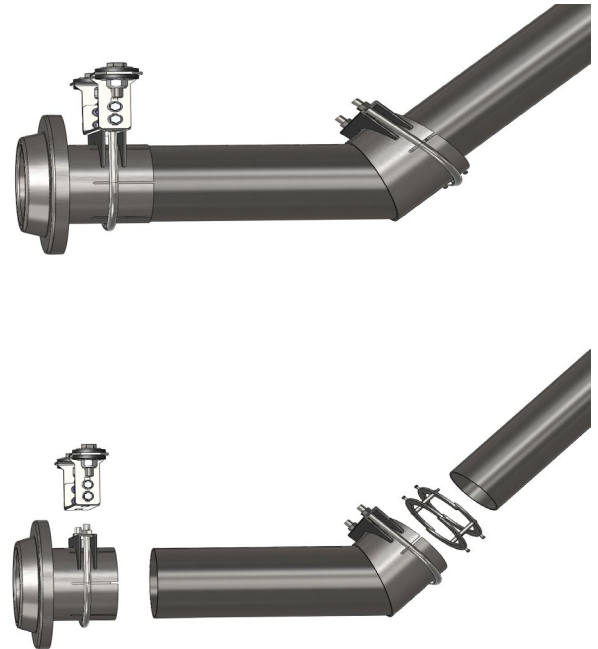


Image: possible tailpipe configuration

9. MOUNTING INSTRUCTION - TRIMMING PROCEDURE

TAILPIPE MODIFICATION OPTIONS

Tailpipe adaptor

The tailpipe adaptor is used when an exhaust tailpipe needs to be converted from 100mm / 4" to 125mm / 5".

Article number	Description
90365-1011	MG-TA 100-125

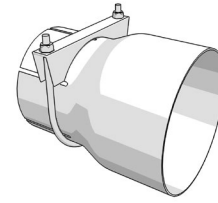


Image: Tailpipe adaptor

Tailpipe support bracket

The tailpipe support bracket can be used for various dimension exhaust tailpipes and is there to fix the tailpipe securely to the body / chassis of the vehicle.

Article number	Description
90375-1011	MG-TSB 75-100
90370-1011	MG-TSB 100-125

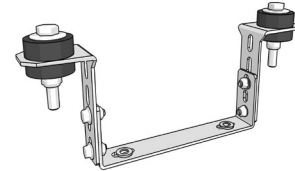


Image: Tailpipe support bracket

Oval modification kit

Various tailpipes have an oval shape or limited space to connect the Magnetic Grabber® tailpipe connector. For these vehicles we have the Oval modification kit.

Article number	Description
90385-1011	MG-OMK

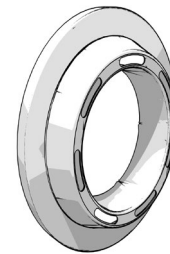


Image: Oval modification kit

Tailpipe reducer packs

The tailpipe reducer pack enables vehicles with different tailpipe sizes to connect to the Plymovent Magnetic Grabber® tailpipe connector. This product can be used in combination with the Magnetic Grabber® tailpipe bends as well as direct onto the Magnetic Grabber® Tailpipe connector.

The tailpipe reducer pack allows a wide range of exhaust pipes to connect to the Plymovent system.

Article number	Description
90383-75-50	Tailpipe reducer pack 75mm - 50mm
90383-75-60	Tailpipe reducer pack 75mm - 60mm
90383-100-80	Tailpipe reducer pack 100mm - 80mm
90383-100-90	Tailpipe reducer pack 100mm - 90mm



Image: Tailpipe reducer pack

Tailpipe bend

The Magnetic Grabber® tailpipe bend allows for a modification of the existing tailpipe. It connects to the original tailpipe using the tailpipe clamp and should direct the exhaust flow to the side of the vehicle where the Magnetic Grabber® connector is positioned to it. If needed the tailpipe bend can also be fastened using the Magnetic Grabber® tailpipe bracket.

Article number	Description
90384-76-45	Tailpipe bend 45°, 76mm / 45° / 3"
90384-102-45	Tailpipe bend 45°, 102mm / 45° / 4"
90384-76-90	Tailpipe bend 90°, 76mm / 90° / 3"
90384-102-90	Tailpipe bend 90°, 102mm / 90° / 4"

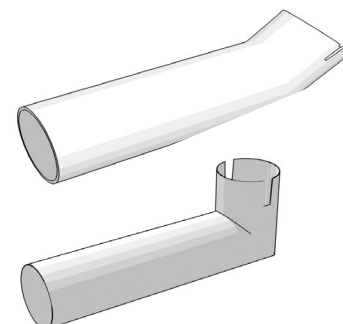


Image: Tailpipe bend 45° - 90°

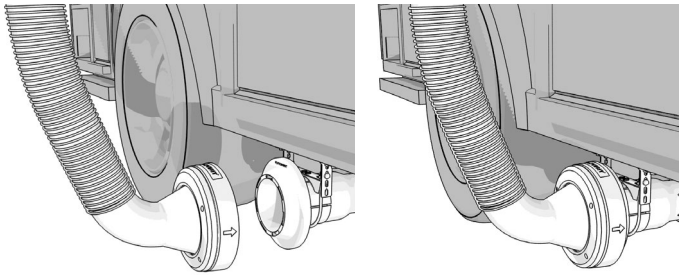
OPERATING THE MAGNETIC GRABBER®

Connecting the Magnetic Grabber®

When a vehicle returns to its bay the Magnetic Grabber® nozzle can easily be attached to the tailpipe adaptor/connector.

The Magnetic Grabber® nozzle must be placed straight onto the tailpipe adapter/connector, but to connect it is easiest to first attach the top of the Magnetic Grabber® and then press down on the safety disconnect in order to attach the lower part of the Magnetic Grabber®.

The conical design of the connection surface ensures safe and easy positioning.



Disconnecting the Magnetic Grabber®

a) Automatic disconnect

The Magnetic Grabber® nozzle will disconnect automatically when the vehicle exits the bay.

b) Manual disconnect

To manually disconnect the Magnetic Grabber® nozzle; hold the safety disconnect with two hands and push it downwards.

TOOLS NEEDED FOR INSTALLING THE MAGNETIC GRABBER®

Magnetic Grabber® nozzle

- Slotted screwdriver – size: 7 x 1.3 (mm) - 0.3 x 0.05 (inch) or (Socket) Wrench – size: 8 (mm) – 5/16 (inch)

Tailpipe adapter/connector

- (Socket) Wrench – size: 13 (mm) – 1/2 (inch)

Tailpipe bracket

- (Socket) Wrench – size: 10 (mm) – 3/8 (inch)
- (Socket) Wrench – size: 16 (mm) – 5/8 (inch)
- (Socket) Wrench – size: 17 (mm)

CLEANING INSTRUCTIONS

To ensure your system operates in the optimal manner the product needs to be cleaned regularly.

- a) Make sure you keep the connection surface of the tailpipe adaptor clean of soot and other contaminations.
- b) Using a damp cloth (rubbing alcohol, degreaser, etc) wipe the connection surface of the Magnetic Grabber®. Best results if using something that evaporates.
- d) Using a damp cloth wipe the entire vertical face/sealed flange of the Tailpipe adapter. Diesel soot build-up will occur when idling or driving at slow speeds.

Keeping these two components clean will ensure a good magnetic connection at all times.

10. USER- AND MAINTENANCE INSTRUCTIONS

Inspection and maintenance:

Inspection/maintenance shall be done according to following schedule:

0-500	turn-outs/year	every 16th week
500-1500	turn-outs/year	every 12th week
1500-3000	turn-outs/year	every 8th week
3000 +	turn-outs/year	every 4th week

1. Check if the magnets on the Magnetic Grabber® are all in place and clean.
2. Check if the Tailpipe Adaptor is clean and no obstructions are there which can prevent the magnets from positioning themselves on the product.
3. Remove the hose assembly from the balancer and check the hose for any defects.
- 4) Check if the saddle, and Magnetic Grabber® are still fixed tightly to the hose.
- 5) The safety disconnect coupling should be disassembled and cleaned.
- 6) The hose assembly should be aligned prior to mounting see "Alignement/mounting of hose assembly" in the mounting instructions.
4. Check the attachment and the the cable on the balancer.
5. Spring tension must be adjusted when required. see instruction.
6. Check the trolley if it runs smoothly through the profile and correct stop at the end-stops.
7. Clean the inside of the rail where the trolley wheels are running.
8. Clean the inside of the rubber seal.
9. Check mechanical damages and oil leakage on the exit endstop with hydraulic shock absorber.
10. Check the internal trolley, clean the inside of suction cone.
11. Check the balancer locking cable, safety chain, support and wire.
12. Balancer spring tension is to be adjusted when needed.

ATTENTION!



- a. Service and maintenance only to be done by qualified and trained persons (in EU according to TRGS 554.
- b. Use sufficient climbing gear and safety guards when working on a higher level than 2.0 meter.
- c. Only carry out service and maintenance when the system is fully disconnected from mains.
- d. Be sure no vehicle can enter the station/bay when carrying out service/maintenance.

11.

CLEANING AND FAQ

HOSE PACKAGE

Clean with water and a soap-solution.



ATTENTION

Do not use solvents to clean the system.

OTHER COMPONENTS

Use compressed air to blow equipment clean.

SBT-RAIL AND SUSPENSIONS

Clean with water and a soap-solution

You observe that...	Why ?	What to do ?
The Grabber® does not connect tightly to the tailpipe connector.	The magnets in the Grabber® cannot make a clear connection.	Clean the Tailpipe connector from any soot or dirt.
The Magnetic Grabber® is dragging over the floor.	1. The balancer cable doesn't retract. 2. The hose drop is too long.	1. Increase the balancer pre-tension (see page 22) 2. Disconnect the saddle and reposition the hose.
The Grabber® is transported out of the Station too far.	1. The BLC is too long 2. The end stop is located too close to the door.	1. Shorten the BLC 2. Reposition the end stop.
The swing-back of the hose drop after disconnection is too extreme.	1. The balancer pre-tension is too strong. 2. The BLC is too long. 3. The distance between the vehicle and the standard hose position is not correct. 4. The end stop is located too far from the door.	1. Decrease the balancer pre-tension. 2. Shorten the BLC. 3. Make sure the vehicle and rail are rightly positioned. (page 12) 4. Reposition the end stop and BLC.
The Grabber® disconnects prematurely.	1. The BLC is too short 2. The end stop is located too far from or too close to the door. 3. The distance between the vehicle and the standard hose position is not correct. 4. Too much friction between the trolley and the rail.	1. lengthen the BLC. 2. Reposition the end stop. 3. Make sure the vehicle and rail are rightly positioned. (page 12) 4. Clean the inside of the rubber lips and/or install a aluminum trolley. (only STR)
The hose drop swings back into the station too far after disconnection (only SBT)	1. The balancer pre-tension is too strong. 2. The BLC is too long. 3. The end stop is located too far from the door.	1. Decrease the balancer pre-tension. 2. Shorten the BLC. 3. Reposition the end stop. 4. Place the track under an angle (see page 18)

12. DISPOSAL

The level of service and maintenance on the Plymovent systems is relatively low. The service and maintenance department of Plymovent consists of well trained personnel who can offer you a service and maintenance contract which ensures your system will function for many years to come.

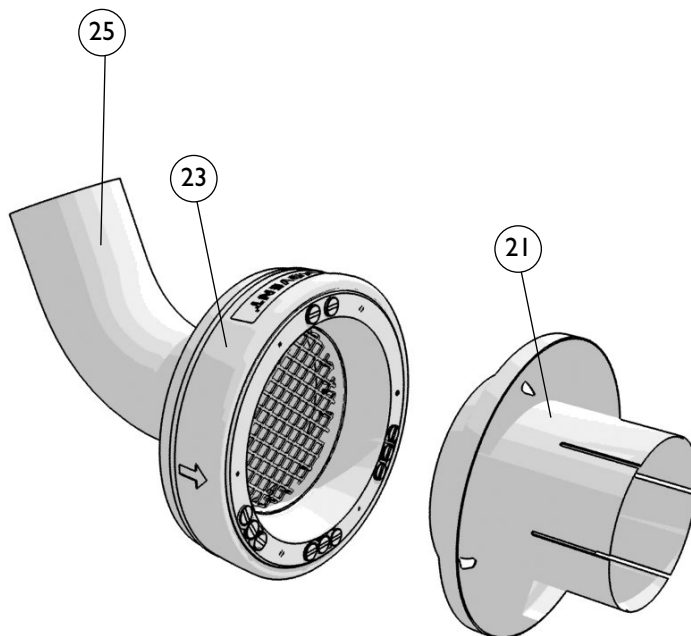
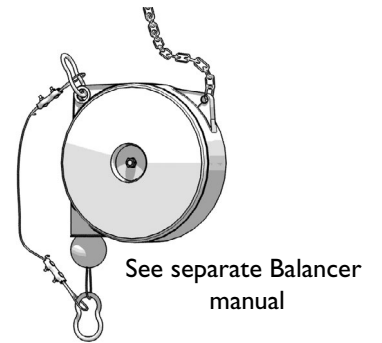
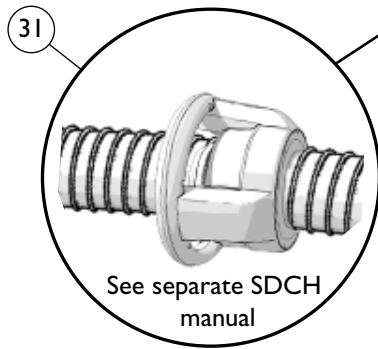
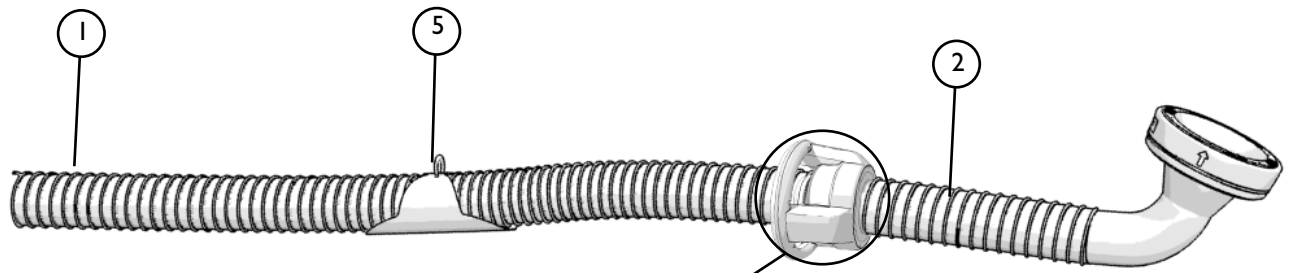
Disposal

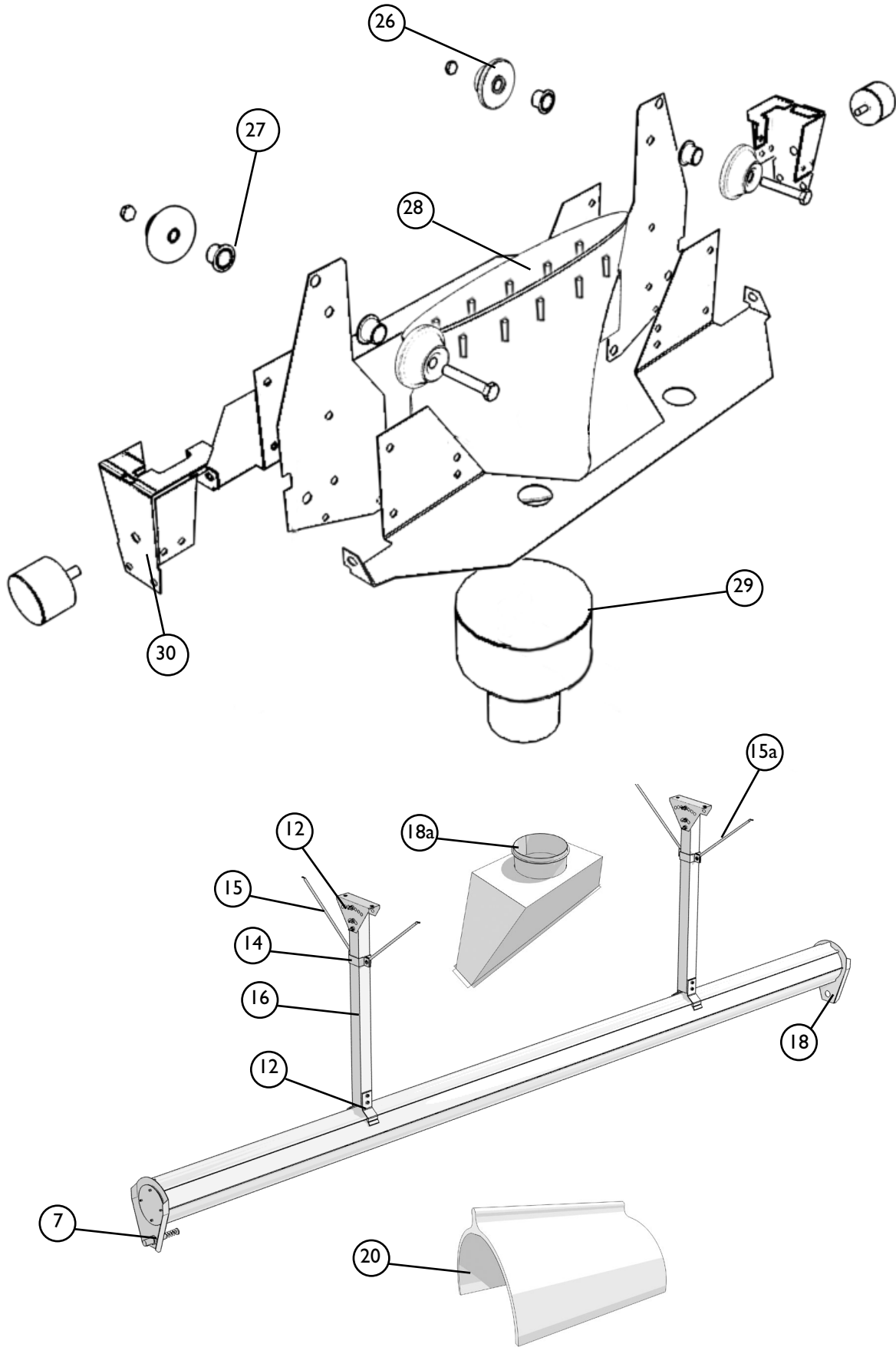
- | | |
|-----------------------|------------|
| - Cardboard packaging | Recycle |
| - Aluminium profile | Recycle |
| - Hose | Rest waste |
| - Grabber® Nozzle | Rest waste |

When dismantling the system please ensure to follow the similar safety precautions as mentioned in this manual for installation.

Dismantling must be done contrary to the installation instructions.

Dismount loose parts before the rail is dismantled.





13.

SPARE PARTS

PLYMOVENT®	SPARE PART LIST	BSAB No: 13.1 Ser. No: STR / R Date: Mar-17
STRM	©Copyright: All rights reserved. All information within this printed matter may not be reproduced, handed over, copied, or translated into another language, in any form or any means without written permission from Plymovent. Plymovent reserves the right to make design changes.	

A	All models	All models of STRM
B	STRM-9	
C	STRM-12	
D	STRM-15	
E	STRM-18	
F	STRM-21	
G	STRM-24	
H	STRM-27	
I	STRM-30	

Abbreviations

X- Order as required, state required length

Pos	Art. No:	A	B	C	D	E	F	G	H	I	J	Description	Note
1	987990-Z											Exhaust hose Ø 100 L = 6M	
	988451-Z											Exhaust hose Ø 125 L = 6M	
	988008-Z											Exhaust hose Ø 100 L = 10M	
	988469-Z											Exhaust hose Ø 125 L = 10M	
2	987 842											Exhaust hose Ø 100 L = 0.6M	
	988 576											Exhaust hose Ø 125 L = 0.6M	
5	512 616											Hose Saddle Ø 100	
	512 624											Hose Saddle Ø 125	
7	968 628											Shock absorber	
12	9211 1011											RRTS, Round Rail Top Suspension	
14	8130-1011											Sidebrace clamp kit	
15	8140-1011											Sidebrace L = 20 in. / 500 mm single	
	8141-1011											Sidebrace L = 30 in. / 750 mm single	
	8142-1011											Sidebrace L = 6 ft. / 1800 mm single	
15a	8145-1011											Sidebraces w/clamp L = 20 in. / 500 mm double	
	8146-1011											Sidebraces w/clamp L = 30 in. / 750 mm double	
	8147-1011											Sidebraces w/clamp L = 6 ft. / 1800 mm double	
16	8120-1011											SBT- SL Support leg L = 19 ft. / 5790 mm	
18	8940-1011											Duct connection End stop Ø 6 in. / 160 mm	
18a	8950-1011											Duct connection Ø 8 in. / 200 mm	
20	40030											Splicing sleeve	
21	906390-1											MG/Tailpipe connector 3 in. / 75 mm	
	006 390											MG/Tailpipe connector 4 in. / 100 mm	
	90360-1											MG/Tailpipe connector 5 in. / 125 mm	
23	90390-3											Magnetic Grabber® rubber protection sleeve 3 in. / 75 mm	
	90380-3											Magnetic Grabber® rubber protection sleeve 4 in. / 100 mm	
	90360-3											Magnetic Grabber® rubber protection sleeve 5 in. / 125 mm	
25	90392-1011											MG / Magnetic Grabber® assy. STR 3 in. / 75 mm	
	90382-1011											MG / Magnetic Grabber® assy. STR 4 in. / 100 mm	
	90362-1011											MG / Magnetic Grabber® assy. STR 5 in. / 125 mm	
26	4-1738											Sliding Wheel	
27	4-1739											Spacer	
28	2-999-Z											Suction cone with rollers and rubber grommets	
29	4-1471											Reduction 6 in. / 4 in. - 150/100 mm	
30	4-1472											Reduction 6 in. / 5 in. - 150/125 mm	
30	4-1802											Release valve/bumper bracket	
31	90560-1011											SDCH 4 in. / 100 mm magnetic	
	90565-1011											SDCH 5 in. / 125 mm magnetic	



Product Service

CERTIFICATE

No. Z1 16 01 87462 001

Holder of Certificate: **Plymovent Exhaust Extraction GmbH**

Redcarstr. 36
53842 Troisdorf
GERMANY

Production

87462

Facility(ies):

Certification Mark:



Product:

Exhaust suction system

Model(s):

**exhaust suction system with pneumatic Grabber®
SBTP / STRP
exhaust suction system with magnetic Grabber®
SBTM / STRM**

Parameters:

	SBTP / STRP	SBTM / STRM
supply pressure:	6 – 8 bar	-
max. permissible pressure on Grabber:	1 bar	-
disconnecting force of the safety coupling:	ca. 450N	ca. 450N
max. permissible exhaust temperature:	150 °C	150 °C
hose diameter:	ca. 100mm or 125mm	ca. 100mm or 125mm
hose length:	6m	6m or 10m
pneumatic Grabber® nozzle Diameter:	120mm or 160mm	-
magnetic Grabber® nozzle Diameter:	-	75mm, 100mm or 125mm

Tested according to:

DIN 31000:2011
DIN EN ISO 12100:2011

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.:

713037924

Valid until:

2021-01-11

Date, 2016-01-18

(Edgar Harnisch)

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