

Festoon system



Users manual

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1.0 General safety Precautions

IMPORTANT – Please study all the instructions before mounting and commissioning.

Please keep these instructions in a safe place and instruct all users in the function and operation of the product.

Installation and service should only be implemented after studying section 4 thoroughly.

Avoid the dismantling of any factory-mounted parts, since it impedes the commissioning of the equipment.

All electrical installations must be carried out by an authorized electrician.

1.1 Danger

Danger of mutilation when dismantling the hose/nozzle from the exhaust. Be careful.

Hoses mounted with spring balance F/LR: Do not release the hose when it is fully extend. Guide it slowly. If released it will accelerate out of control.

To minimize the risk of danger all instructions in this manual must be followed carefully.

1.2 Area of application

GEOVENT Festoon system is developed for the extraction of exhaust and welding smoke. When installed correctly the festoon system allows

a vehicle to be placed in position in a safe manner. The hose is extended and fastened to the exhaust of the vehicle.

Alternatively the festoon system can be fitted with a welding hood so it can be used for welding.

The festoon system must not be used for extraction of aluminum dust, flour, textile and wood dust or other explosive media without written prior consent from Geovent.
When in doubt, contact Geovent A/S

1.3 Technical Specifications

Temperature extracted air	Max 150°C
Temperature surroundings	Min 0 - 50°C

If the extracted air is hotter than 150°C the standard hose will melt.
To prevent this several precautions can be taken.
See trouble shooting in section 4.1

Sound data

The festoon system in itself does not produce any noise. The sound level relies on a number of factors, primarily the ratio of the diameter of the hose and the extracted air flow. If the hose is too narrow, wind noise will occur.

Optimal air flow

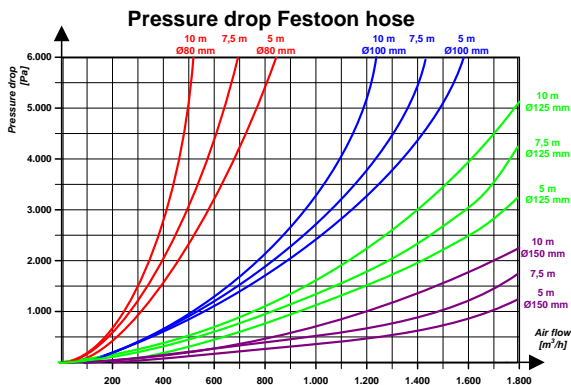
A number of factors must be taken into consideration when selecting festoon system hose dimension.

Type of vehicle	Recommended air flow	Recommended hose Diameter
Mini cars	300 m ³ /h	ø80/
Smaller passenger car	400 m ³ /h	ø100
Pass. Cars > 3000 ccm	600 m ³ /h	ø125
Vans/smaller lorry	800 m ³ /h	ø125
Large lorry	1000 m ³ /h	ø150
Heavy equipment	1000 m ³ /h	ø150
Test stand	1000-2000m ³ /h	ø150/ø200

Engines run at idle. Values are indicative.

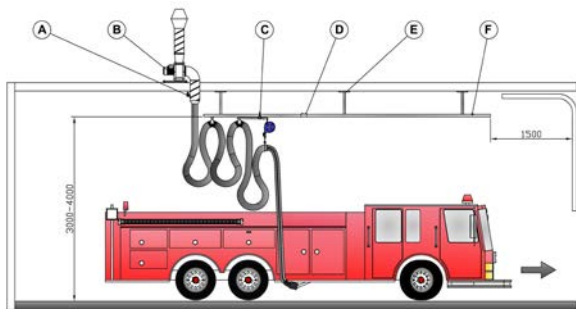
Pressure drop for hose

The actual pressure drop depends on the air flow and how the hose hangs in the festoon. The following values are indicative.



When calibrating place the master trolley as far away from the fan as possible.

1.4 Construction



Festoon system example

- A: aluminum duct \varnothing 160 with reduction valve for pressurized air
- B: Fan MSFG-200-3 1,1kW – can deliver up to 2.100 m³/h.
- C: Trolley with mounted spring balance.
- D: Connection for rail system. Rails come in lengths of 6 meter and can be combined to suit your needs.
- E: Suspension bracket for ceiling mounting.
- F: Trigger mechanism to reduce nozzle pressure thus detaching the nozzle from the exhaust.

2.0 Installation

The festoon system is delivered in separate parts

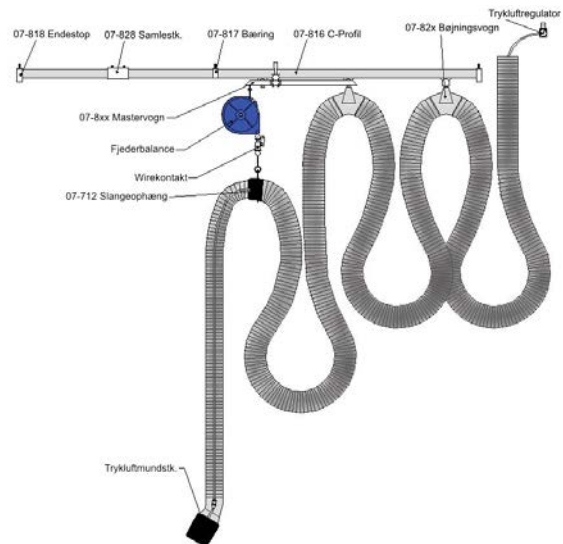
The channel must be supported every 2 to 4 meters. Tip: By giving the C-profile an incline of 2-3° the hose will return to its initial position.

Recommended height of installation is 3-4 meters.

All trolleys are fitted with low noise rubberized steel wheels with smooth-running ball bearings

We recommend 1 bend trolley for every 2 meters of C-profile. Between every bend-trolley 2, 5 m. of Geoflex Exhaust hose is required.

Use one suspension bracket every 3 meters of C-profile.



07-821	Master trolley \varnothing 100 – w. bend 360° pivotable
07-820	Master trolley \varnothing 1250 – w. bend 360° pivotable
07-819	Master trolley \varnothing 150 – w. bend 360° pivotable

07-824	Bend trolley 100 – 360° pivotable
07-823	Bend trolley 125 – 360° pivotable
07-822	Bend trolley 150 – 360° pivotable

07-816	C-profile for festoon, Length = 7,0m
07-828	Connection for C-profile
07-818	Suspension Bracket M10 tread incl. End stop
07-817	Suspension Bracket M10 tread
07-831	Outrigger-arm 180° pivotable L = 3,0 m

Installation should be carried out by a trained professional.

Before installing, consider the optimal placement of the festoon system.

Is there sufficient room and is it possible to perform duct work and service the system.

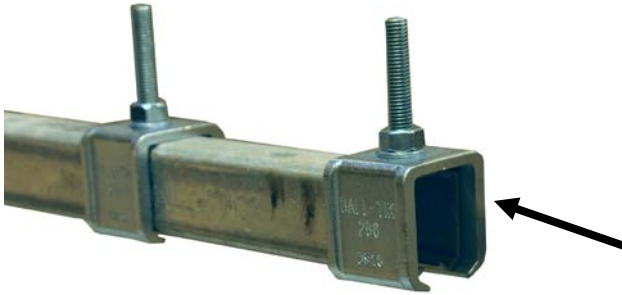
The festoon system can be installed on both a plane and slanted ceiling.

Manual Festoon System

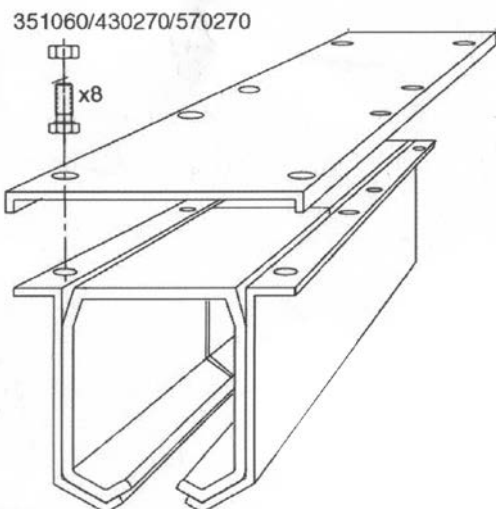
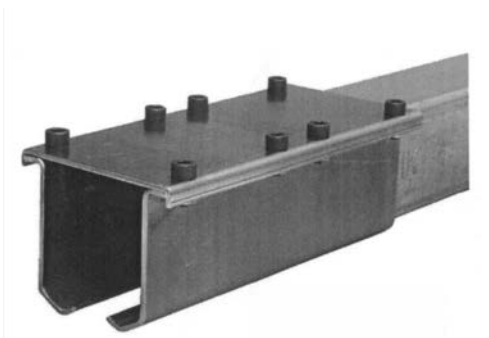
Depending on the individual solution some components may not be included.

Procedure:

1. Fasten suspension bracket with appropriate distances.



2. Connect the profiles to the desired length. This is best done by placing the profiles on the floor. Use connection pieces to connect the profiles.



3. Now suspend the profile. Note that we recommend a height of 3-4 m and the use of an end stop. Use only one end stop when installing-

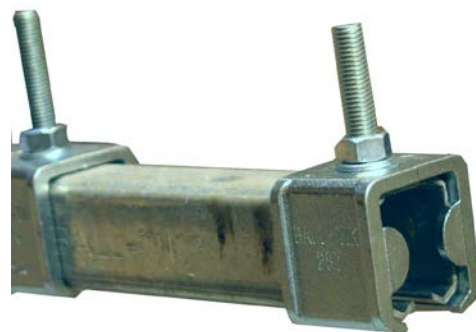


Master trolley



Bend trolley

5. Finally fasten the end stop as shown below.



6. Next install the hose. Allow some 2, 5 m. between each trolley.

- 7. Now mount the spring balances on the master trolley, nozzle on the hose and automatics. These items are optional but often times included.
- 8. The compressed air regulator can be mounted on the wall, on the master trolley or at the nozzle.



NOTE: Do not use the nozzle without a regulator–MAX 1 Bar.

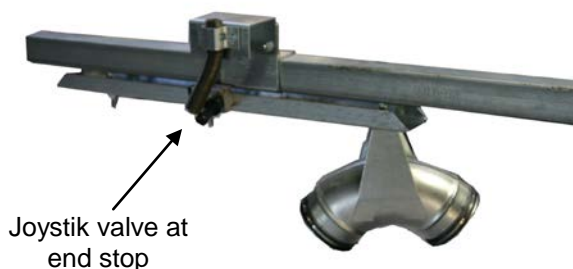
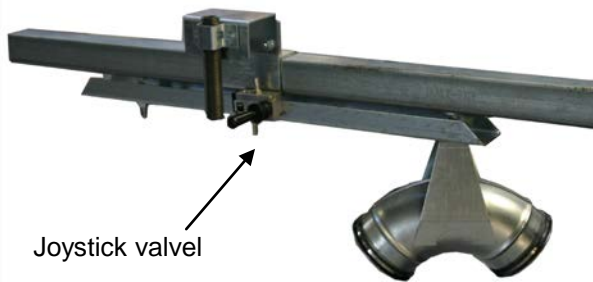
- 9. Now connect the hose to the duct and calibrate system.

2.1 Accessories

The festoon system can be fitted with a number of accessories. Some of the most common upgrades are:

Automatic pneumatic detachment.

Using a pneumatically activated nozzle it can be set to automatically detach itself at the end of festoon system. This bracket signals to the nozzle to release pressure and detach from exhaust.



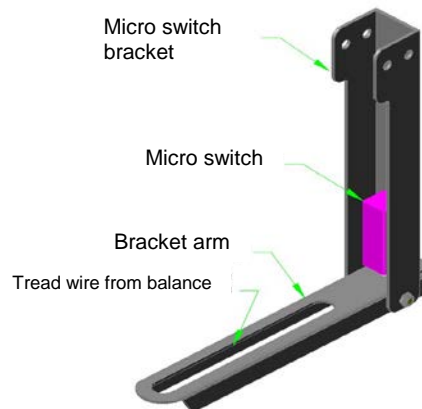
The Joystick Valve is activated by being touched by the spring mounted on the end stop.

Automatic mechanical detachment.

By Automatic mechanical detachment a bowden cable and nozzle with a clamp and trigger mechanism is used

Automatic start/stop

Wire switch for automatic start/stop of the fan. Used with supply cable and LWS control. Can be connected to 24V (recommended) or 230V



Wiring for automatic start/stop

Start/stop automatics can also be used with a motor damper as described below.

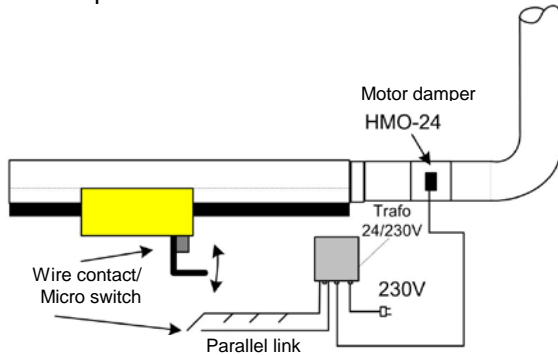
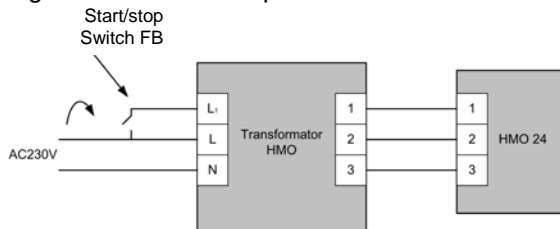


Diagram for motor damper



2.2 Test run - Calibration

After installation, make sure that the master trolley can be operated. The hose is moved to desired work area and returned.

3.0 Daily usage – user instruction

The master trolley is often moved by the operator. To ensure long life, the trolley should always be pulled under the c-profile.

The festoon system will not work as intended if:

- Unauthorized parts are used on the rail system.
- The festoon is used for other purposes than described in this manual.
- The fan is turned off. (This will result in the hose melting.)

4.0 Maintenance

Periodic maintenance

- Maintain trolleys on suitable intervals for optimum performance.
- Avoid running over the hose to ensure long life.
- Make sure the hose is not bent right after the exhaust.
- Measure air flow on the festoon system at least once a year.

If the air flow is too little the hose can melt.

The entire festoon system should be checked at least once a year by a trained professional.

4.1 Trouble shooting

In case of a problem with the festoon system check the following issues:

Typical problems when installing festoon system:

- Fastening the festoon system
Pay attention to the installation instruction.

Noise problems.

- The festoon system is not properly fastened to the ceiling or the ceiling is not stable enough.
- More air is run through the system than intended. *Use balancing damper.*

Hose problems.

- The hose melts near the nozzle. This will happen if the air flow is not sufficient or if the hose is bent too much and too close to the nozzle. *Increase air flow. Alternatively use a high temperature hose near the nozzle.*

- For vertical exhausts we recommend using 06-200 "Swan neck nozzle".



5.0 Liability

Warranty

Geovent A/S provides warranty for products which are flawed, faulty or poorly manufactured on the part of Geovent.

The warranty means repair or swop up to one year after dispatch date. Geovent A/S cannot be held liable for any losses as a consequence of malfunction of a Geovent product.

Warranty does not cover wear parts such as hoses, wheels and fans.

User responsibility

To provide the mentioned warranty the operator/installer must have followed the instructions in this manual in all regards.

Geovent A/S products must not be altered in any way without written prior consent by Geovent A/S.

6.0 Declaration of conformity

The manufacturer:

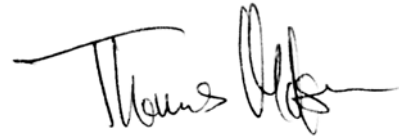
GEOVENT A/S
HOVEDGADEN 86
DK-8831 LØGSTRUP

hereby declares that:

The products: Festoon system
have been manufactured in compliance with the directions of the Directive Council of 17th of May 2006 in common approximation to the legislation of the member states regarding machine safety 2006/42/EF amended by the directive 95/16/EF with special reference to appendix 1 in the Directive regarding basic health and safety requirements in connection with the construction and manufacturing of machinery.

Name: Managing Director
Thomas Molsen

Date: 29-05-13



Signature : _____



GEOVENT

