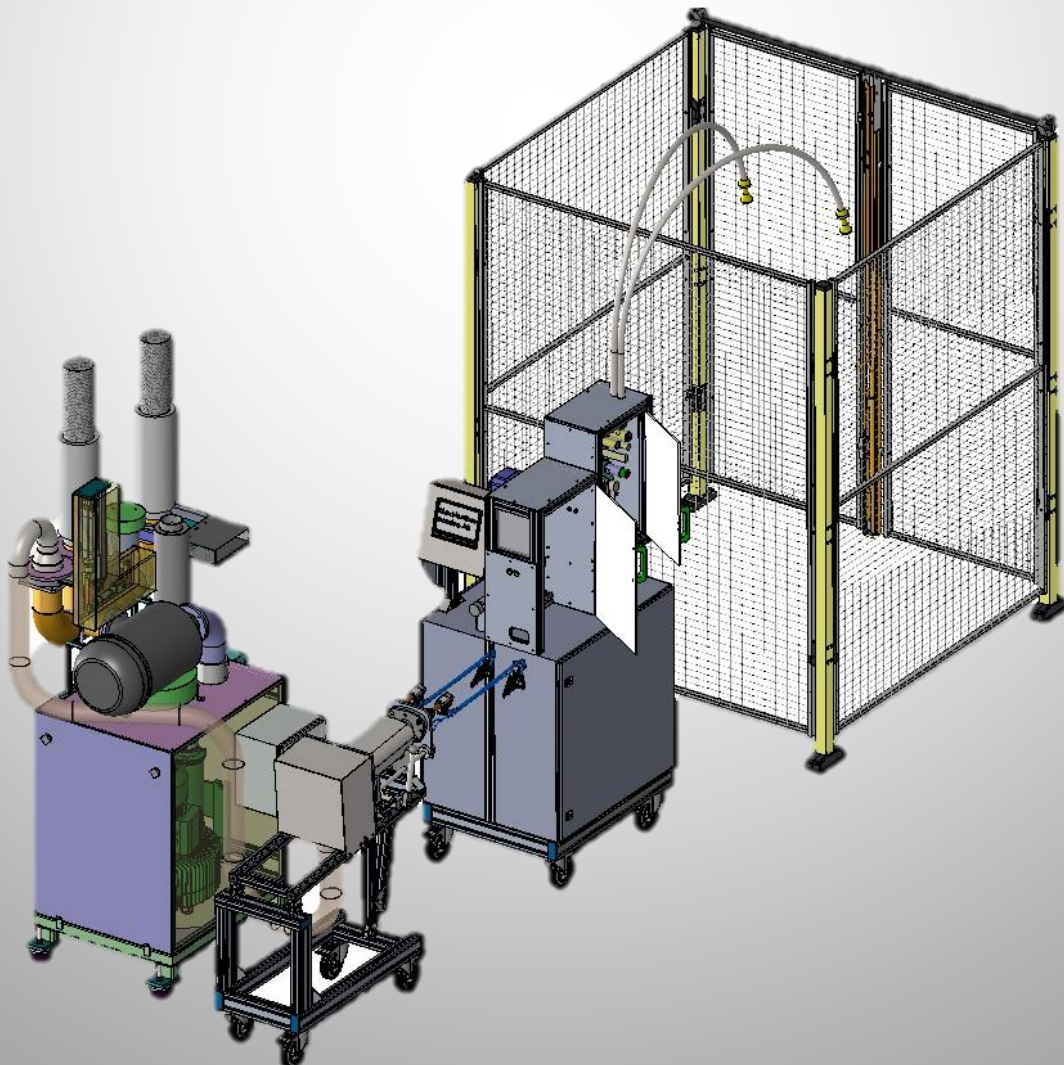




Glass-Fiber Texturizing & Filling Equipment

For Mufflers and Sound Dampening Applications



Fillex – Manual Direct Filling Machine



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Machine Description

Fillex –Manual Direct Filling Machine is designed to texturize glass fibre roving and inject directly into spun (rolled) mufflers with the help of our custom designed glass-fiber texturizing nozzle. The term “texturizing” is associated with the modification of the physical arrangement of glass fiber filaments, so they offer optimized sound absorbing performance.

Fillex – Manual Direct Filling Machine is a manually operated machine and has capacity to drive 2 glass fibre strands, and blow simultaneously with one nozzle or two nozzles operation, depending upon the application type. Machine requires an operator to load and unload the muffler on the horizontal fixture provided with machine, and to start the filling process with the provided foot pedal.

Fillex – Manual Direct Filling Machine is based on Control panel (HMI) & PLC system that allows the recipe management and has ability to save up to 100 recipes in the integrated memory. Recipes can be saved as production part number, and it is possible to have one recipe with up to 4 filling cycles, which means upto 4 different amounts of fiber in 4 filling cycles (1 filling = 1 amount of fiber). This helps to produce either more than one part number in which each part has different amounts of fiber to fill or to fill more than one cavity with different amounts of fiber in one part number.

Fillex – Glass fiber filling machines are being engineered with sole purpose to provide best to our customers. Fillex – Manual Direct Filling Machine is CE marked product according to CE Machinery Directive 2006/42/EC. Fillex – Manual Direct Filling Machine can also be customized with additional accessories according to the specific requirements, choice of Components, or application area.

Key Features:

- 2 strands of glass fiber roving
- PLC system
- HMI & Recipe management
- CE mark
- Dust proof electro static sensors
- Intelligent safety
- Possible to customize
- Equipped to connect vaccum fan
- Hand and/or pedal operation
- Siemens or Allen Bradley PLC and Control panel.

Applications:

- Exotic passenger cars
- Commercial vehicles
- Two & three wheelers
- Industrial silencer filling
- Silencer filling for power engines
- Non-automotive
- Aftermarket
- Marine



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Machine Operation:

The fiber glass roving is fed to the feeding unit of machine directly from the pallet(s) and it is operated by a motor drive and controlled by a PLC system along with a programmable frequency convertor. The required amount of the texturized fiber glass (in grams) is entered in the recipe system through the touch panel (HMI). It is required to start the cycle by the operator, but cycle will stop automatically.

The equipment requires an operator – manually operated in the following sequence:

- Operator loads an empty muffler on the muffler loading station and close the filling tool with manually operated lever.
- Press the start button on the foot pedal.
- The glass-fiber roving is pulled by the feed roller in feeding unit directly from the pallet(s), the nozzle(s) with attached tooling accessories converts the roving to wool shape material and fills directly in the muffler cavities.
- The feeding unit automatically measures amount of feed compared to the desired amount entered through the HMI. Once the amount is reached the equipment stops and the thread is cut automatically in the cutting device attached to the nozzle.
- Operator opens the filling tool with manually operated lever and load the muffler.
- The sequence is finished and the equipment is ready for the next muffler (alternatively the filled muffler is turned for filling the B side).

Specifications (standard version):

Filling Specifications:

Glass-fiber 4800 G/km Tex @ 50Hz

~ **30.4 g/sec/nozzle**

Glass-fiber 7000 G/km Tex @ 50Hz

~ **50.2 g/sec/nozzle**

Glass-fibre rovings:

All models fabricated by MachineTech Sweden have the capability to drive different Tex. values of glass-fibre roving i.e. 2400 Tex., 4800 Tex., 7000 Tex.

Operational Specification:

Number of filling nozzles: 1 – 2

Nozzles per muffler: 1 – 2

Cycle time without filling: ~ 3 sec

Noise level: ≤ 85dB

Change over with 1 operator:

Tool change over: ≤ 5 min

Material feeding change over: ≤ 10 min

Height adjustment: Manual function.

Energies connection:

Electrical connection: 400V, 50/60 Hz (for EU)

Pneumatic connection: 1.5 inches

Air supply: 6,5 – 7 bar

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Vacuum Unit:

A separate suction fan with a side channel vacuum pump can be connected to Fillex – Manual Filling Machine. The location of this unit is optional. The out-flow from the fan and its blow off silencer can have free outflow into the premises or be connected to a duct that goes out through the ceiling of the building.

This suction fan unit is connected with separate feeder cable to the electric mains. In addition, there is a connection to the compressed air supply or to quick coupling on the machine.

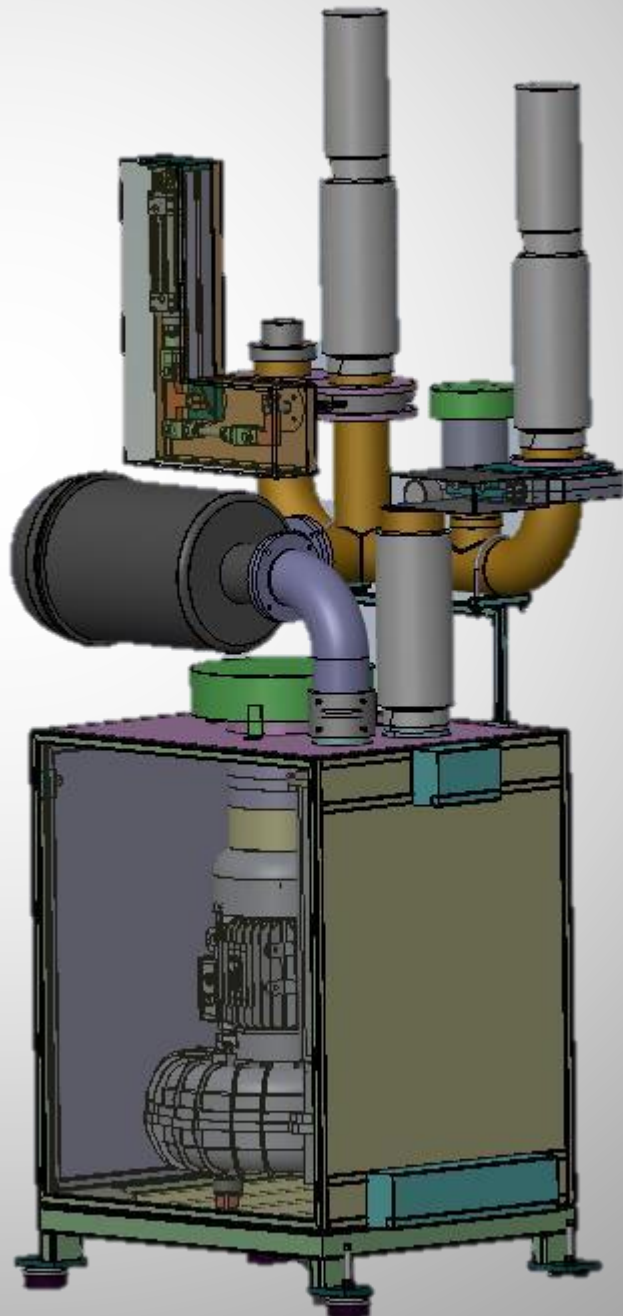
The suction fan works in automatic mode in conjunction with Fillex – Manual Direct Filling Machine. The fan is operated from the control panel. Fan suction works in two ways.

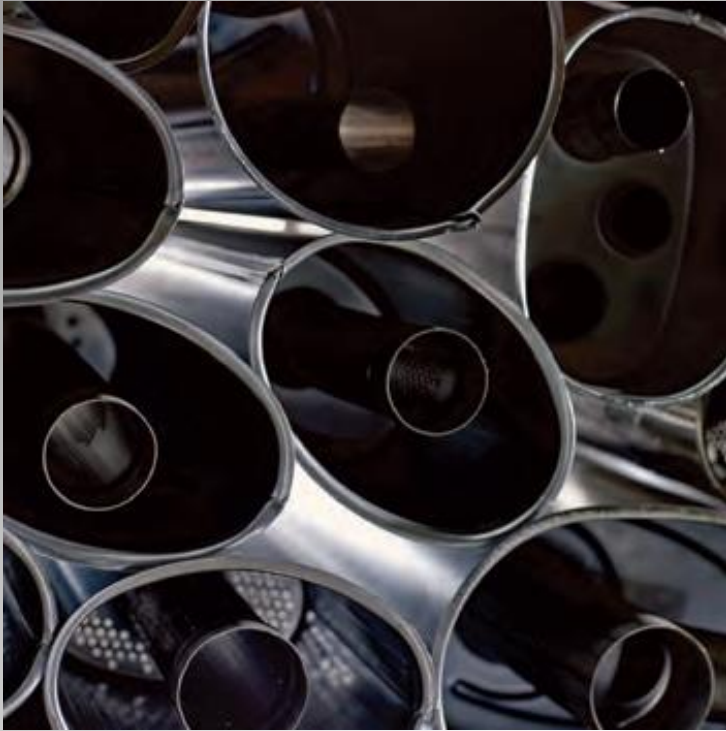
1. During filling and cutting the air is sucked in through the blowing tool - through the silencer to be filled - through the fixture's suction box - through the cyclone filter - through the suction fan and out through the pressure side of the fan.
2. Before and after the filling phase, the fan sucks in free air through the cyclone filter - through the suction fan and out through the pressure side of the fan (this function cools the inside of the fan). If, for some reason, the negative pressure drops down to -0.23 bar, an under pressure relief valve opens and allows air into the system. This air also goes through the cyclone filter.

An automatic suction regulating valve makes it possible to reduce the suction fan's negative pressure by admitting air in from the premises before the cyclone filter. This setting is done by means of a scale on the valve operated through control panel of the machine.

The box around the fan is ventilated by the fan's motor. On the top of the box there is a round inlet suction cover, and the air is blown out on the rear side through two oblong columns. This function cools the motor and the outside of the fan.

On the inlet connection of the vacuum pump with the suction box, there is a fine-mesh net, which protects the fan to get the fiber particles more than 3 mm long. The cyclone filter has an accumulation container that removes the thick dust.





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* The specification and key features described in this product sheet may deviate slightly. Due to ongoing innovation and R&D enhancement MachineTech Sweden AB reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.