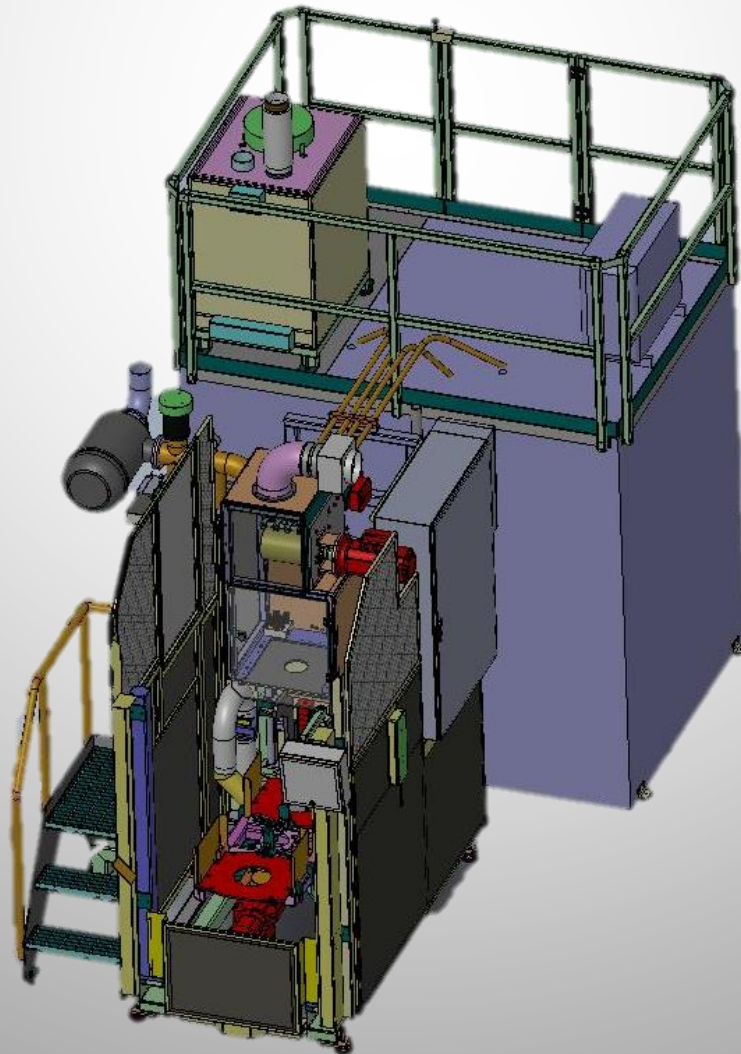




# **Glass-Fiber Texturizing & Filling Equipment**

*For Mufflers and Sound Dampening Applications*



**Fillex – Vertical Filling Center - Twin Station**

# Fillex – VFC - Twin Station

## Machine Description

### Machine in general:

The machine is intended for filling vertically positioned mufflers with textured (blown) glass-fibre filaments (roving). The machine requires an operator to run it. Operations are semi-automatic with automatic processing.

The machine is equipped with a turntable which turns the mufflers 180 degrees (counter clockwise and clockwise), the suction table connected with linear unit that lifts up the mufflers to the filling position, and a nozzle housing equipped with nozzles and a feeding unit for the glass-fibre filaments. A Poka Yoke system can be integrated as an option with the turntable and to the nozzle house of the machine for wrong tooling and/or wrong part detection against the recipe entered into system through HMI.

The turntable and suction table are connected with a height adjustment unit, and can be vertically adjusted so that mufflers with a length of 180 to 900 mm can be filled (for detailed muffler dimensions please see the assembly drawing). The machine is equipped different suction control valves to control the vacuum during the filling process. The suction system is also equipped with three different filter barriers including cyclone filter to avoid the release of dust particles into the plant.

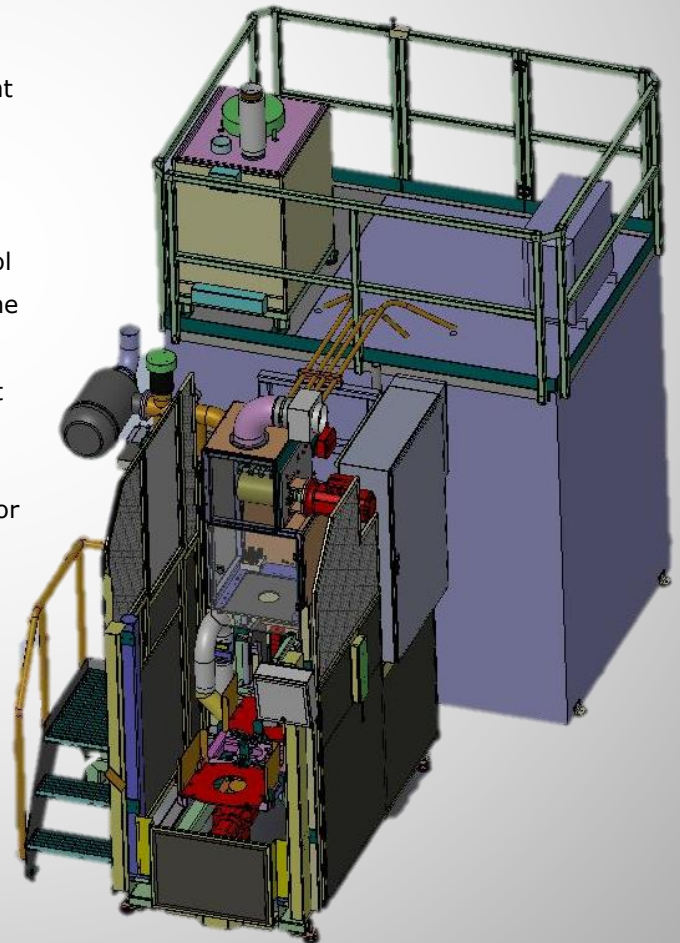
The machine fills a muffler at the same time as the operator replaces a filled muffler with an empty one for filling in the next cycle. This can be done as soon as the turntable has stopped.

Mufflers can be filled from both sides (A and B sides).

This is done manually by the operator turning the muffler after filling has taken place on one side.

The machine is equipped with 4 "press rollers" (one for each filling nozzle).

Filling can be obtained by utilizing up to 4 nozzles with 4 separate filling amounts. The weight fed in through each nozzle is determined by the number of revolutions on the feed drum. An optional scale unit can be integrated in the machine to Poka Yoked the amount of glass wool blown in to the muffler.



# Fillex – VFC - Twin Station

## Features & Applications:

### Key Features:

- Up to 4 nozzle operation.
- 4 independent controlled filling amounts.
- Dust proof electrostatic sensors.
- Programmable filling speed.
- Touch screen control panel.
- Self-diagnostics (alarms).
- Automatic & Manual operating mode.
- Recipe management.
- Parts counter.
- CE mark.
- Intelligent safety.
- Password protection for different user levels.
- Safety fence for glass-fiber pallets.
- Wifi connection for remote assistance.
- Quick change tooling function

### Muffler dimensions:

- Length: 180 – 900mm
- Diameter (width): 90 – 305mm
- Oval case: 300 x 300mm
- Minimal filling chamber depth: 70 mm (depends on the muffler design and filling density)
- Inner tube extension (suction side): 0 – 90mm
- Inner tube extension (filling side): 0 – 150mm

### Options:

- Siemens or Allen Bradley PLC.
- Filling weight check according to tolerance on drawing.
- Poka yoke for tooling and/or Part: mechanical, sensors, or vision system.
- Temperature and humidity controlled climate chamber for glass fiber conditioning.
- Bar code reader.
- Multiple tooling options: rotation tool, intermediate chamber filling, twin filling tools, two side filling tools.
- Multiple options & accessories

### Application Areas:

- Automotive industry
- Medium to high volume production
- Passenger vehicles
- Commercial vehicles
- Other exhaust silencers.
- Aftermarket







# Fillex – VFC - Twin Station

## 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 and the following is the sequence in Auto mode:

- The operator takes out the filled muffler and inserts an empty one (alternatively the filled muffler is turned for filling the B side).
- The operator activated the start button.
- The muffler is turned 180 degrees (first time clockwise, next time counter clockwise).
- The muffler is lifted up from the turntable, then a pause is taken in the middle to weight (optional), and it moves to the filling position . The operator can start working at the same time.
- Filling of the muffler and then cutting of the roving. After that suction is disconnected.
- The muffler moves down, then a pause is taken to weight (optional), and it returns to the turntable.
- Start of a new cycle.

## 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 – 4

Nozzles per muffler: 1 – 4

Cycle time without filling: ~ 7 sec

Noise level: ≤ 85dB

### Change over with 1 operator:

Tool change over: ≤ 5 min

Material feeding change over: ≤ 10 min

Height adjustment: Automatic & manual function.

### Energies connection:

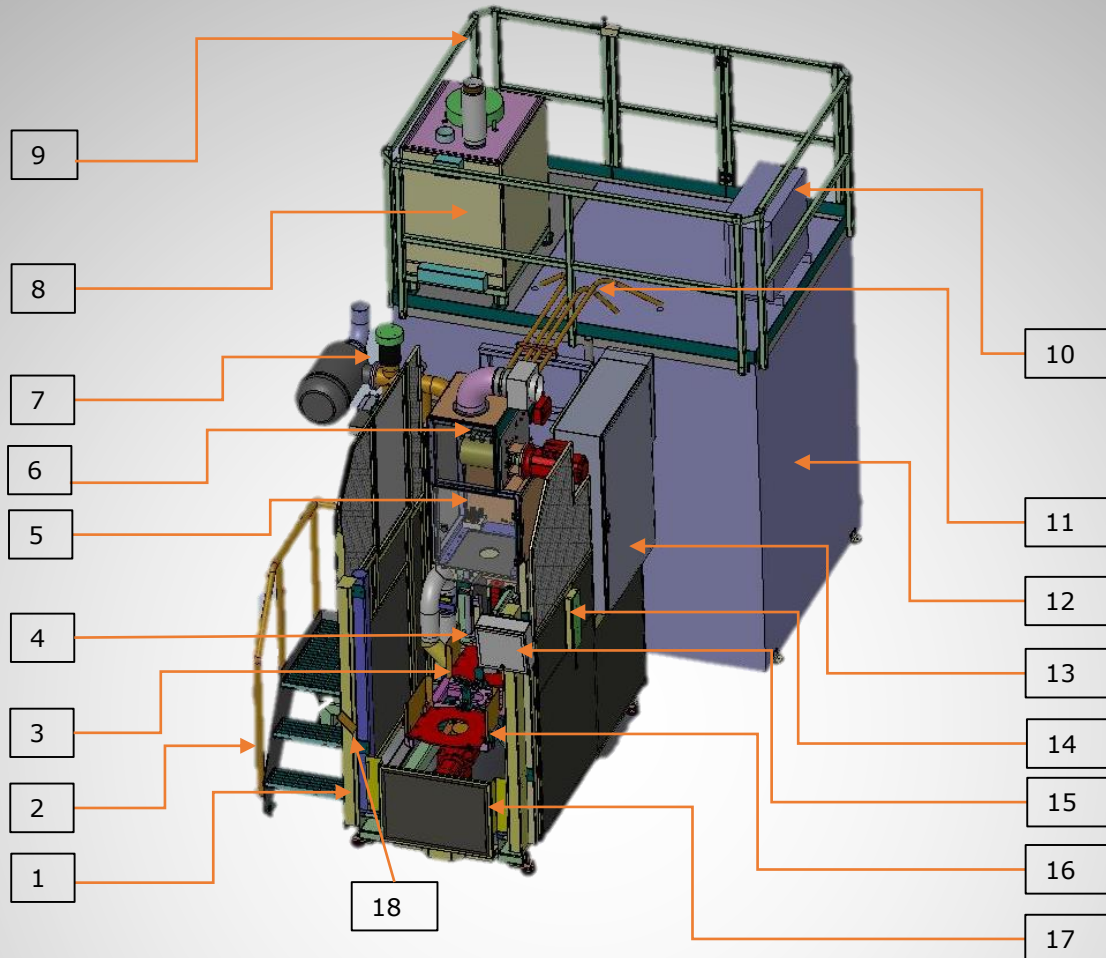
Electrical connection: 400V, 50/60 Hz (for EU)

Pneumatic connection: 1.5 inches

Air supply: 6,5 – 7 bar

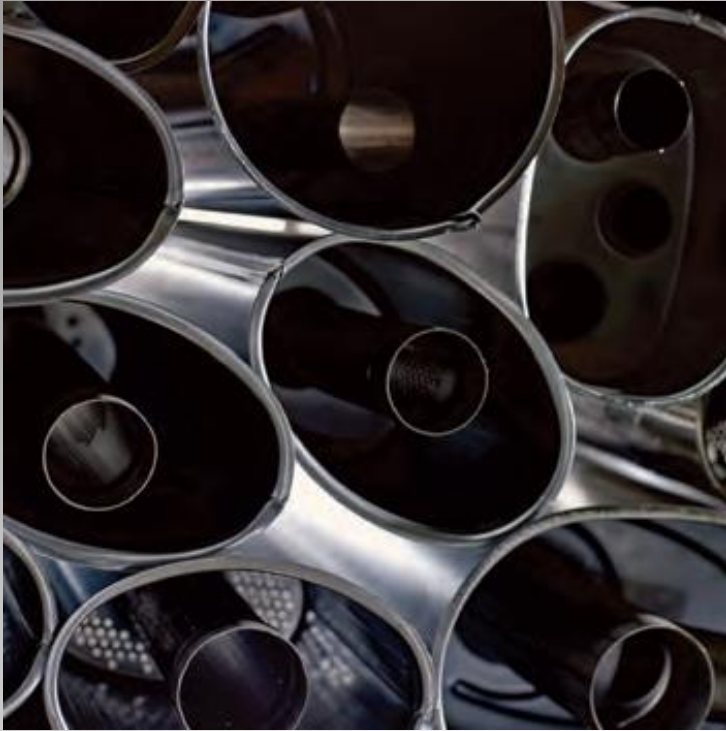
# Fillex – VFC - Twin Station

## Structural Definitions:



1. Left light curtain with protection pillar.
2. Fixed stairs to access nozzle house.
3. Suction table.
4. Height adjustment unit.
5. Quick connections for nozzles and cutter inside the nozzle house.
6. Feeding unit with 4 press rollers.
7. Vacuum unit with cyclone filter.
8. Vacuum fan to provide suction during filling.
9. Guard rails integrated with the roof of the climate chamber.

10. Outer unit for climate control
11. Feeding tubes for smooth feeding of fiber glass to the machine.
12. Climate chamber to increase the stability of glass fiber.
13. Electrical enclosure.
14. Protection for the inner light curtain.
15. Control panel HMI.
16. Turntable.
17. Front protection.
18. Start panel



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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.