Absolent

TSF4F Dust Filter

The Absolent type TSF4F Dust filter is based on the latest and most efficient filter technology in every respect. It is a compact, compressed air pulse-cleaned filter that is especially well suited for use in installations that operate around the clock. The fan is also integrated in the unit, ensuring quiet operation.
Depending on the nature of the particles to be filtered, the TSF4F filter handles applications with air volumes of up to 2500 m³/h. The TSF is supplied fully assembled from the factory. All the customer need to do is to connect the power supply, compressed air line and the supply air and exhaust air ducts.

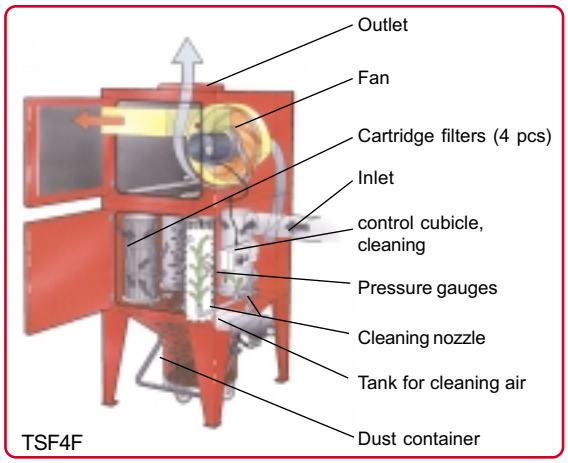
Patent pending Down-flow technique offers better filter cleaning.

The Absolent TSF is probably the only dust filter in the world that utilizes the ”down-flow” technique to the full. ”Down-flow” involves a downward airflow inside the filter unit. Thanks to this flow technique, the particles to be cleaned from the filter medium need not fall against the direction of airflow in order to reach the dust container below the filter medium.

There are several of filters currently available on the market, which are equipped with horizontal cartridges. Dust can easily collect on the upper side such cartridges and drastically reduce their filter area. Absolent has instead chosen to equip the TSF filters with vertical cartridges that completely prevent any reduction in filter area.

Design

The TSF4F is a robust and compact unit that requires a minimum of floor space. The TSF4F is supplied with a baked powder painted finish that adds colour to the shop floor.



TSF4F

Operation

The dust-laden air is sucked into the inlet on one side of the filter. The heaviest particles in the dust fall directly into the dust container. The air and the lighter particles are sucked further to the 4 filter cartridges where the dust collects. The filtered air is then sucked to the integrated fan that discharges the air across a HEPA-filter to the outlet. At this point, the air is now so clean that it in most cases can be recirculated to the room. Whenever the pressure drop across the filter cartridges exceeds a preset limit value, the valves in the tank for cleaning air open and a pulse of compressed air (approx. 4 Bar) is discharged into the filter cartridges from the cleaning nozzles (1 nozzle per filter cartridge). The compressed air pulse causes the dust collected on the filter surface to loosen and fall down into the dust container.

Range of Application

The Absolents TSF4F is well suited for use in applications where dry dust is generated, such as the following:

- Welding
- Laser cutting and plasma cutting
- Grinding and polishing

Service and Maintenance

The large servicedoor enables easy access to the inside of the unit for simple and quick servicing. The filter cartridges are provided with an easy-to-use, quick-release clamping device for cartridge withdrawal from the unit without using any tools. Environmental considerations are very important to the staff at Absolent; this has prompted the use of washable filter cartridges in the TSF4F. A filter cartridge has a normal useful life of 2-3 years before it needs to be replaced.

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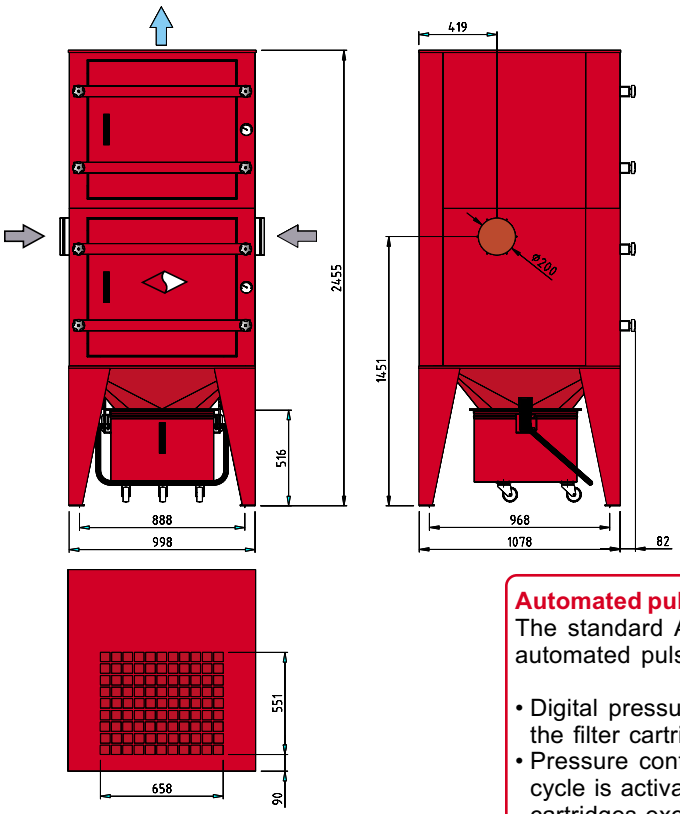
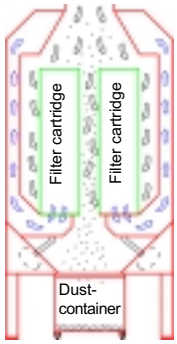


Down-Flow Principle

Genuine **"Down-Flow"**, i.e. both the air and the dust are blown downward and the air doesn't change direction until it has been filtrated.



The TSF4-1200 unit is shown, however the principle is the same.

Automated pulse-cleaning system

The standard Absolent TSF filter is equipped with an advanced automated pulse-cleaning system with the following functions:

- Digital pressure gauge that indicates the pressure drop across the filter cartridges
- Pressure controlled pulse cleaning; a compressed air cleaning cycle is activated when the pressure drop across the filter cartridges exceeds the preset level. A cleaning cycle involves cleaning all the cartridges
- If pressure-controlled cleaning is not desirable, the unit can instead be preset for intermittent cleaning at an adjustable time interval
- Adjustable alarm level that warns when the in-service limit is reached and the filter cartridges need to be cleaned or replaced. The alarm signal cable can be extended for connection to controls at an external location.
- The automated equipment includes a subsequent cleaning function that is activated when the filter is shut down. Between 0-10 subsequent cleaning cycles can be set
- The automated pulse-cleaning system is enclosed to degree of protection IP 65

Compressed air equipment

Compressed air consumed (compressed air-pulse cleaning): 20-100 l/min.
The volume of compressed air consumed depends on how often the filter needs to be cleaned. This depends on how heavily the filter is loaded with dust. The compressor and air tubing should be sized for 100 l/min consumed during the cleaning cycle.

Pressure in cleaning tank: 4 Bar

Technical Data

Max. permissible air volume[1)]	2500 m^3/h
Number of cartridges	4 pcs.
Collecting efficiency down-stream of the HEPA filter	99,99% arresting 0,3 µm dia. particles
Sound level (operation/cleaning)[3)]	60/85 dB(A)
Motor output (Fan)	4.0 kW
Power supply (Fan)	400 V (3-Phases)
Total filter area (Cartridges)[2)]	31 m^2
Filter area (Absolute filter)	24 m^2
Colour options:	Red (RAL3000) *Other colours can be quoted on request!*

Standard Equipment

- Automated pulse-cleaning system containing an advanced microprocessor and an automated electronic sequencer
- Pressure gauge for reading the pressure drop across the filters
- Integrated fan
- HEPA-filter

Accessories

- Extension legs
- Pre-coating of the filter cartridges for special applications.
- Rotary vane feeder

1) The air volume is conditional on the type of particles to be filtrated.
2) The standard filter has a filter area of 31 m^2, however the filter area can be increased to as much as 40 m^2.
3) Approx. sound level measured 1m from the filter in a normal room. The higher figure has been measured during a cleaning pulse. Please get in touch with Absolent or one of our dealers for assistance with sould calculations.

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