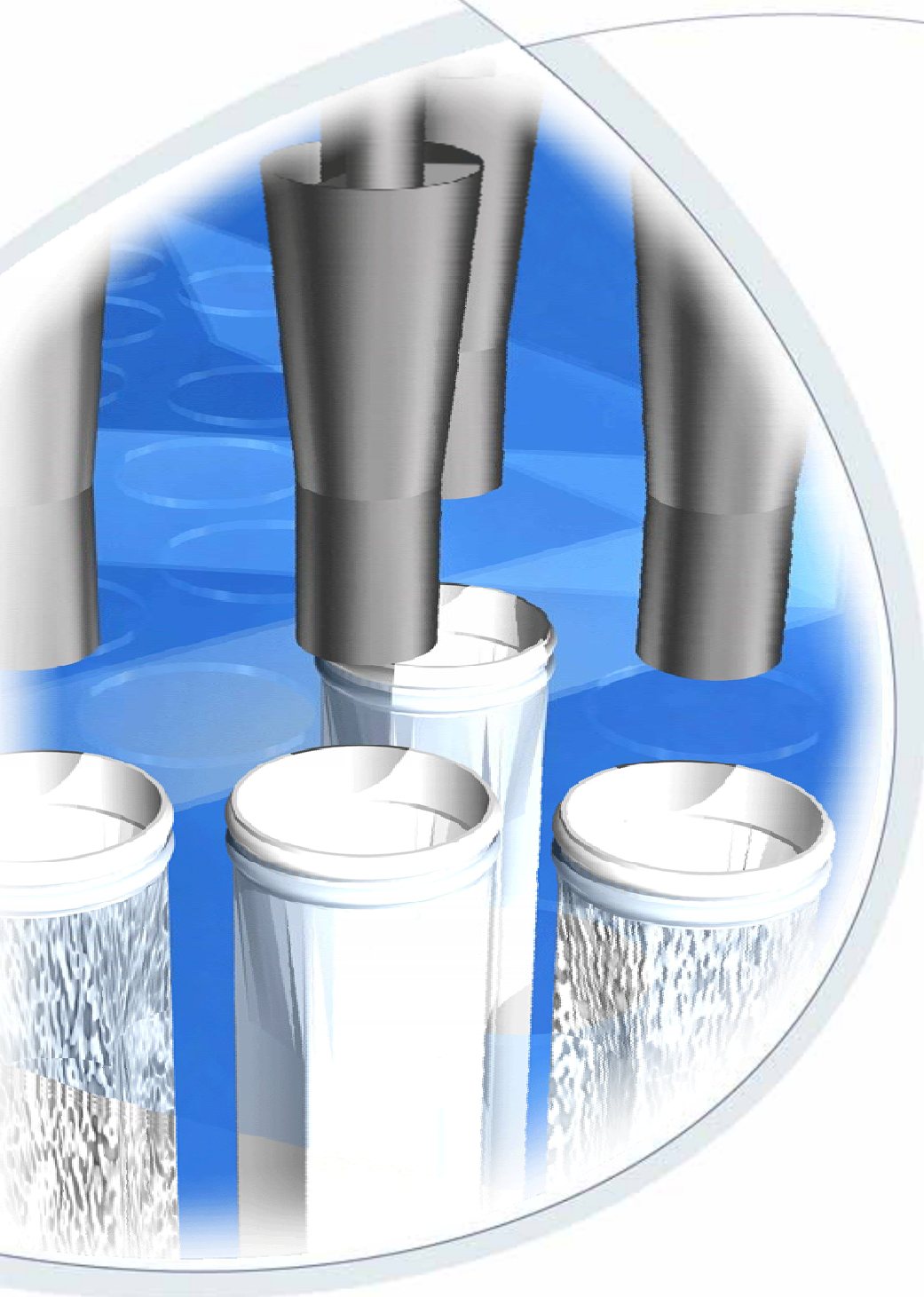


Filter Technology

SimPulse 3C

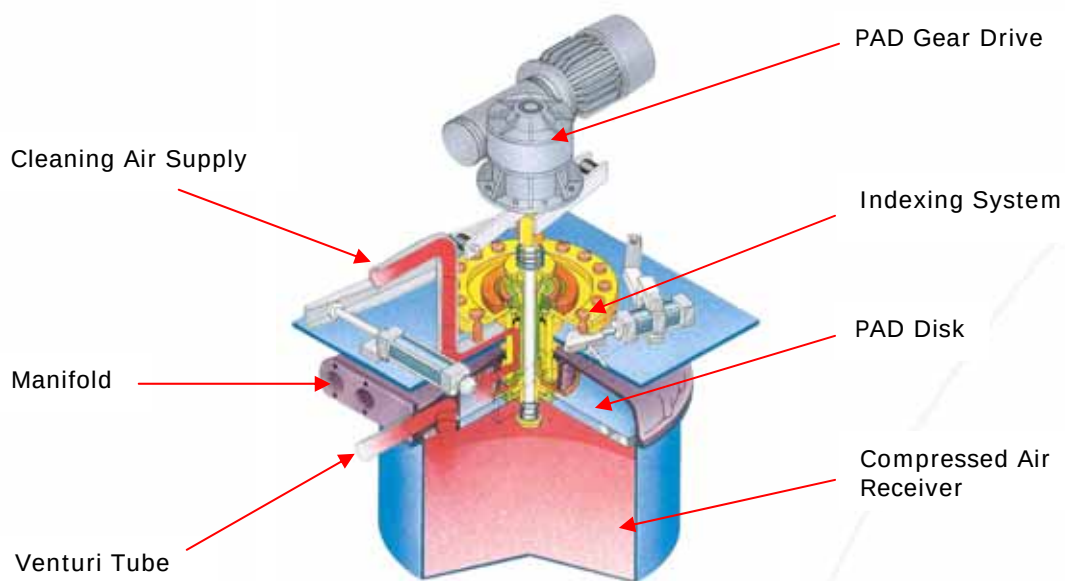


SimPulse 3C Filter

Individual Cleaning of the Filter Bags

A specially designed mechanical valve is placed inside the top of the filter. This Pulse Air Distributor (PAD) secures that all bags are cleaned one by one exactly with the optimum cleaning energy.

Included in our supply is a low pressure compressor providing the necessary cleaning air to the receiver placed directly below the PAD-valve inside the filter.



3C - Pulse Air Distributor

The valve has 10 openings which one after the other allows a pulse of cleaning air through an ejector into one single bag. When 10 bags then have been cleaned individually the entire PAD, including the 10 blow pipe arms with ejectors, indexes to the next position for individual cleaning of the next 10 bags.

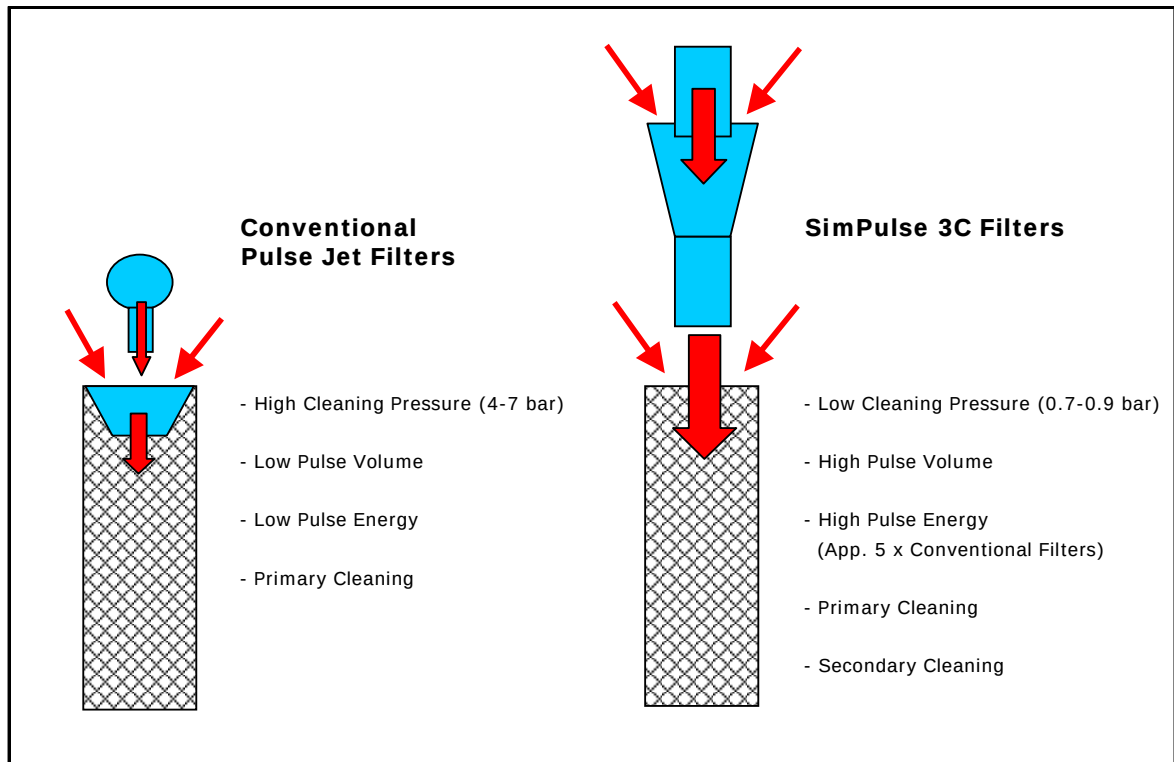
This low pressure (0.7-0.9 bar) but high volume cleaning pulse makes it possible to achieve up to 5 times higher energy than by other pulse jet filters. It is consequently absolutely safe to clean up to 11 m long bags.

A PLC control makes it possible to optimize pulse time, cleaning energy per bag etc. and the normal procedure is automatically to start and stop cleaning sequences to keep the pressure drop across the filter within the pre-set limits.

This unique individual bag cleaning principle will in all normal operating conditions result in very long cleaning intervals which together with the low pressure - high energy - pulse provides a very gentle cleaning and long bag life.

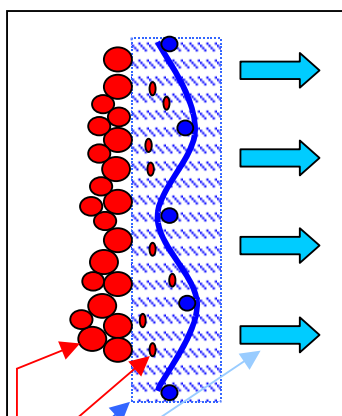
High Energy - High Volume - Low Pressure

(Combined Pulse Jet and Reverse Air Technology)



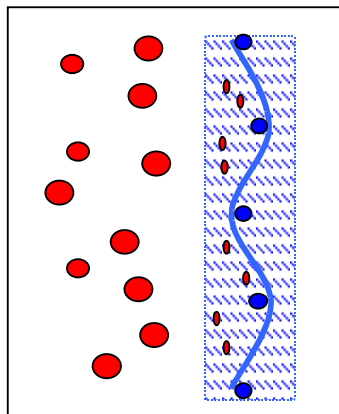
Operation

Conventional Pulse Jet Filters and SimPulse 3C Filters



Primary Cleaning

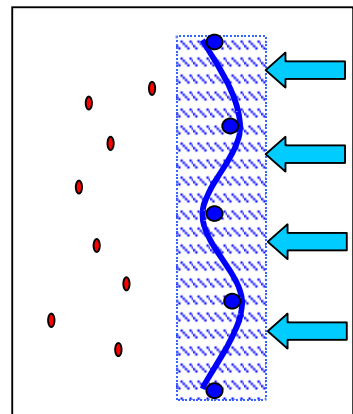
Conventional Pulse Jet Filters and SimPulse 3C Filters



High cleaning energy secures an efficient cleaning of the bag surface (Mechanical Cleaning)

Secondary Cleaning

SimPulse 3C Filters (Special 3C feature)



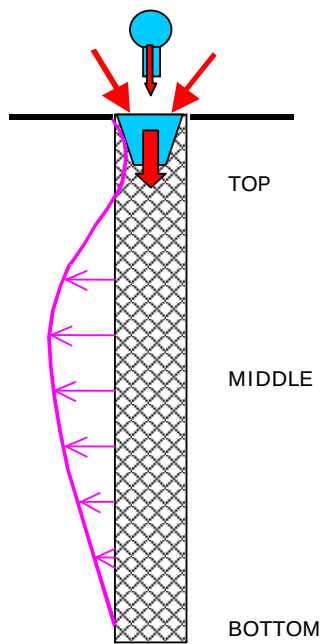
High pulse volume secures an efficient cleaning of the depth of the bag material (Reverse Air Cleaning)

Uniform Cleaning of Filter Bags

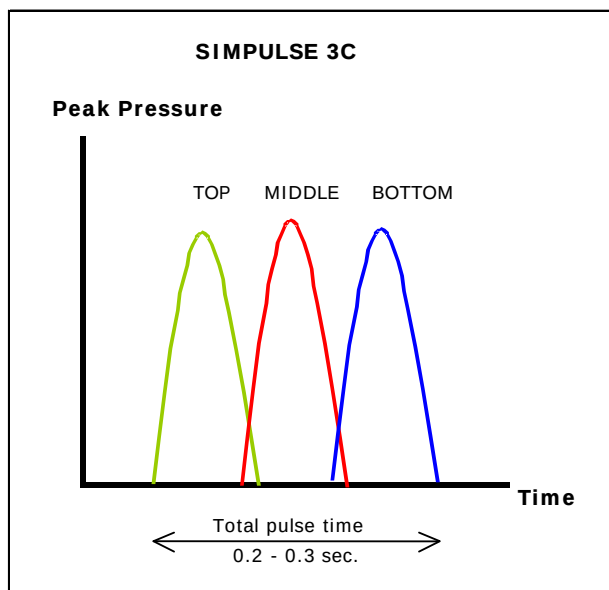
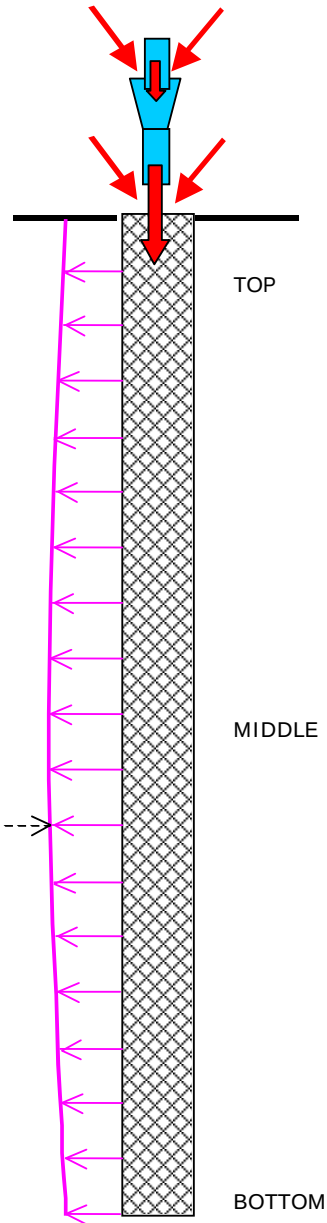
Up to 11 Metres

**Conventional
Pulse Jet Filters**

(High Pressure)



SimPulse 3C Filters



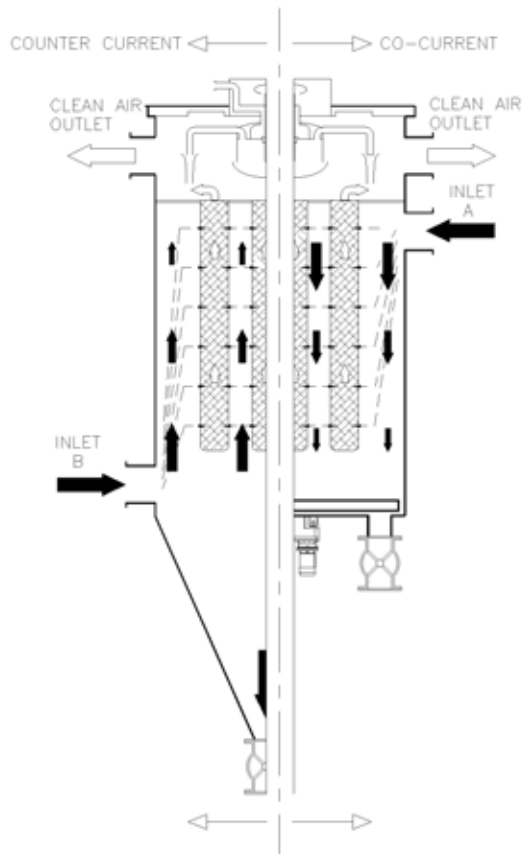
Peak Pressure:

Max. pressure inside the
filter bag during jet pulsing

Co-Current Downflow Operation

For submicron operation – as also for other fine dust jobs – Simatek always prefer top entry of the dirty gas securing that the gas velocity between the bags is downwards, hereby helping the fine dust particles to be conveyed to the bottom dust outlet (Inlet A).

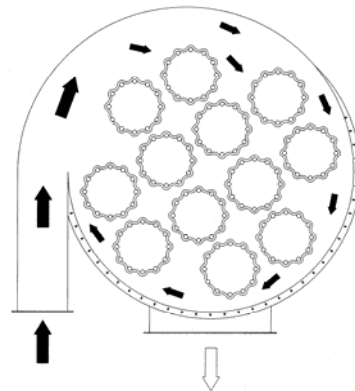
In most other filters the upward gas flow between the bags keeps the very fine dust particles suspended or hanging in the air for often very long time (Inlet B). The same particles will often be collected on, and – by cleaning – released from the bags several times.



Circular Design with Top Entry

The dirty flue gas is introduced tangentially in the top of the filter through a 180° scroll inlet. This ensures a very even gas and dust distribution into the filter and some coarse dust will be collected by this simple cyclonic effect.

The cylindrical walls secure that there are no "dead corners" and the risk of low temperature pockets with increased corrosion risk is drastically reduced.



Flat Bottom Design (Option)

For flue gas cleaning projects the SimPulse 3C filter is delivered with a flat scraper bottom with continuous discharge by a slowly rotating scraper.

The flat bottom design reduces height requirements and lowers temperature gradients in the filter, thus minimizing the risk of corrosion. The risk of fire is also drastically reduced. It is proven experience that most fires start in filter hoppers.

For any type of product which is likely to build up in the cone outlet, the scraper bottom is the proper solution.

Modular Compact Design for High Capacities

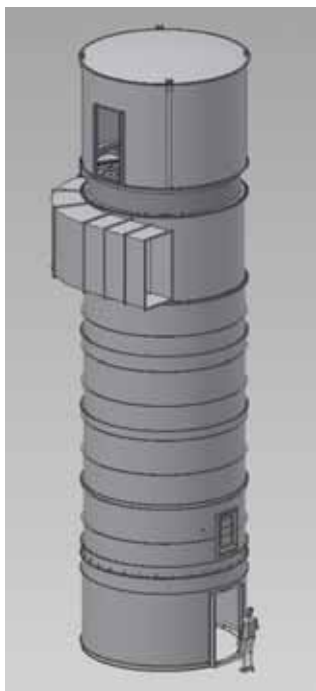
An advantage of the cylindrical design is a.o. the possibility of basing large systems on parallel cylindrical modules.



Application:	Smelter (Ferro Manganese)
Capacity:	700,000 m ³ /h
Filter modules:	4 x JM 336/100-05, Simpulse 3C
Bag length:	10 metres

Flue Gas Cleaning

Advanced Filter Technology for Boilers - Incinerators - Smelters



SimPulse 3C - unique for efficient cleaning of flue gas from incineration and smelting processes.

Typical Applications

Boilers / Incinerators:

- Municipal and hazardous waste incineration
- Co-incineration of waste and biofuel
- Combustion of biofuel and fossil fuel

Smelting Processes:

- Metals
- Minerals
- Glass
- Waste recovery

SimPulse 3C Standard Module, including:

Penthouse, filter housing with spiral inlet, flat scraper bottom, and lobby

Ask for our specific folder on Simatek Sorption Systems for Flue Gas Cleaning!

SimPulse 3C has remarkable features for integration in sorption plants for removal of acid gases, heavy metals, and dioxins.



Boiler, Biofuel



Boiler, Coal
3C Twin Module



Aluminum Smelting Furnace

SimPulse 3C

A Unique Pulse Jet Filter Combining the Features below

- Individual cleaning of the bags one by one
- All bags cleaned by exactly the same optimum amount of energy
- Pulse-Jet System based on:
 - HIGH PULSE ENERGY
 - HIGH PULSE VOLUME
 - LOW PULSE PRESSURE
- Uniform cleaning of up to 11 metres long filter bags
- On-line cleaning (no compartments to shut down for cleaning)
- Up to 5 times higher cleaning energy than by other pulse jet filters
- Low power consumption
(No need for high-pressure compressor)
- Co-current downflow operation
(For submicron operation)
- Gravimetric gas stream along the filter bags carries the dust particles towards the hopper
- Combined Pulse Jet and Reverse Air Technology
- Low pressure drop across the filter bags