



DRY-FIL- Hot Gas Filter®

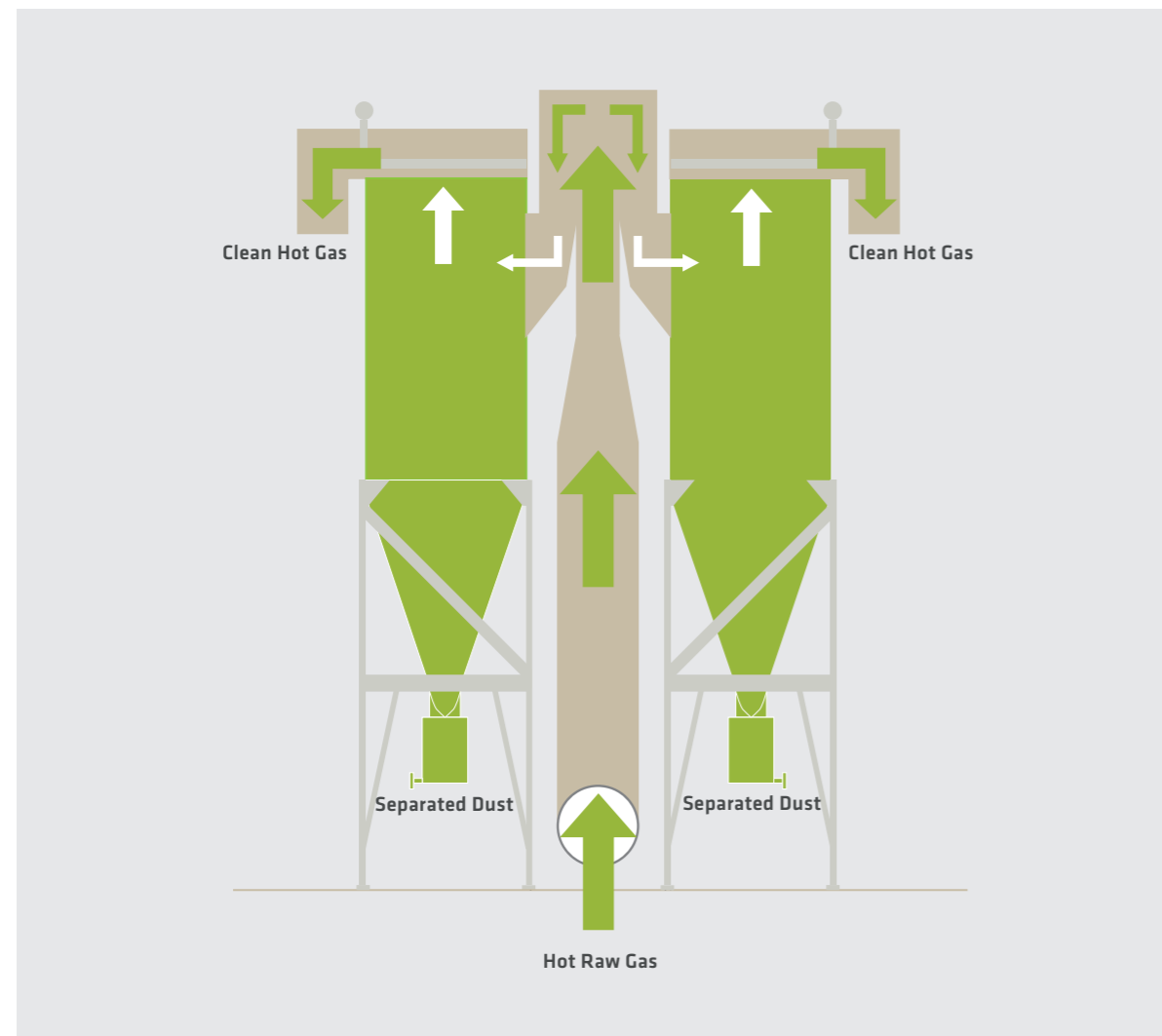
Engineered to protect our environment.

DRY-FIL Hot Gas Filter®

KVT develops sustainable and efficient technologies in the industrial pollution control technology: it is specialized in several filtering system for many industrial applications and for different process gas conditions and compositions. The DRY-FIL brand is the last generation hot gas filtration system developed by KVT.

KVT started to design and manufacture its own high temperature ceramic filters for the gas desulfurisation technology (SULFOX), to protect the process equipment from dust, without cooling down the process stream with evident energy saving. Now KVT team can offer an optimised and improved filter solution as modular unit, adaptable to large application fields as:

- Incineration process of various materials.
- Manufacture of high performance ceramic fibres.
- Sulphuric acid recovery.
- Burnout furnaces in lost wax foundries.
- Plasma melting of catalyst for precious metal recovery.
- Production of nano materials.
- Gasification of waste wood and other materials.
- Pyrolysis of waste plastics and other materials.



The effective Hot Gas Filtration

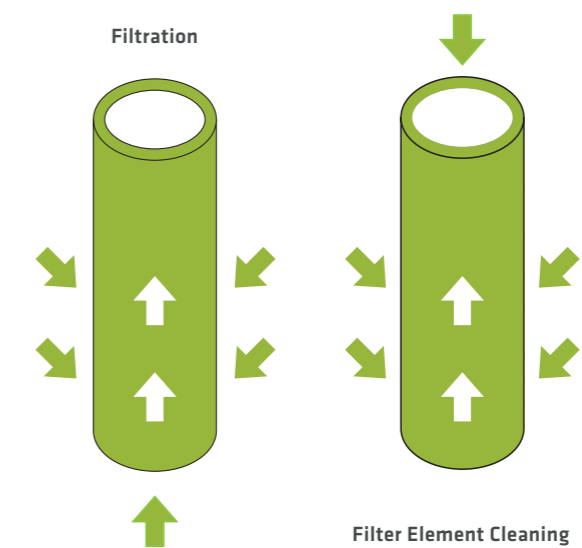
Technical Features and Benefits

In hot process gas filtration, the hot gas stream is heavily loaded with dust/solids which must be removed. Normally the high temperature filtration is defined as a filtration above an operational temperature of 260°C. For these gas cleaning applications, the gas filter units are equipped with special designed hot gas filter elements resistant up to 1100°C also in a corrosive atmosphere. (The operating temperature limit is determined by the steel type used to support the filter elements).

There are a number of advantages why it may be desirable to remove solids from a process gas at an elevated temperature:

- No need for dilution air or long flue gas runs to reduce the gas temperature.
- Heat exchangers for heat recovery can be positioned after the filter, avoiding deposition of particulate.
- Operation above dew points for acid gases, thus minimising corrosion.
- The gas is already hot for the subsequent processes that require clean hot gas using thermal energy of the exhaust gas.
- The hot gas contains condensable liquids that are required to remain in the vapour phase
- The solids to be collected will change their properties if cooled down
- Operation and lower power consumption, filter systems don't need dilution air, cyclones, spark arrestment or other complicated systems.
- The compact modular design saves space and lowers installation costs.
- Proprietary reverse pulse cleaning gives efficient cleaning with lower compressed air demand.
- Innovative system design allows on-line maintenance and element replacement.
- High filtration efficiency with 99.99% can be achieved.
- Slightly tapered elements, allowing aerodynamic flow around the elements and helping to avoid the build up of particulate between the elements.

Process Description



The ceramic filter element is flanged at one end and closed at the other. The elements are suspended vertically in the filter vessel from the plate, which separates the clean and contaminated section. The hot gas is sucked through the filter candles from outside to inside, depositing the dust particles on the external surface of the ceramic elements. At proper times pulses of air are blown into the internal side of the filter elements causing a reverse flow. The accumulated dust is detached from the external surface of the filter elements. The dust is collected in the bottom section of the vessel from which it is discharged.



Headquarter

**Kanzler Verfahrenstechnik
Gesellschaft m.b.H.**

Ragnitzstraße 115
8047 Graz, Austria
Tel.: +43 316 321404 0
office@kvt.technology

www.kvt.technology

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