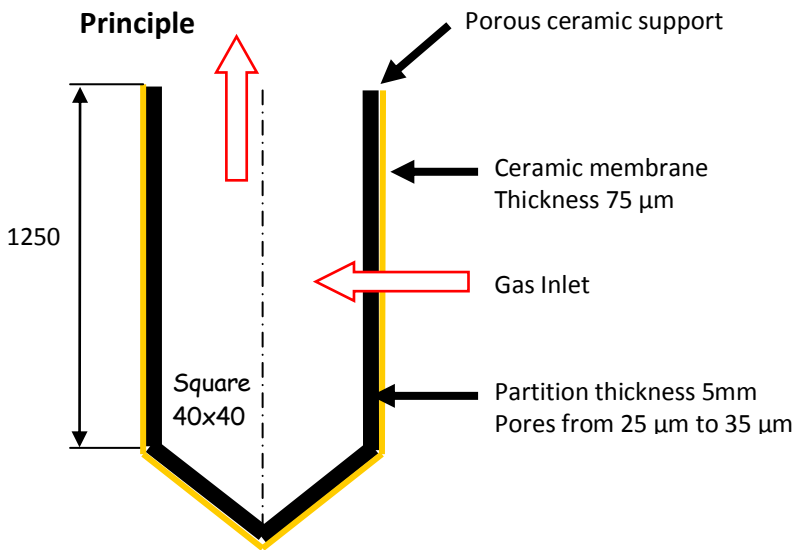


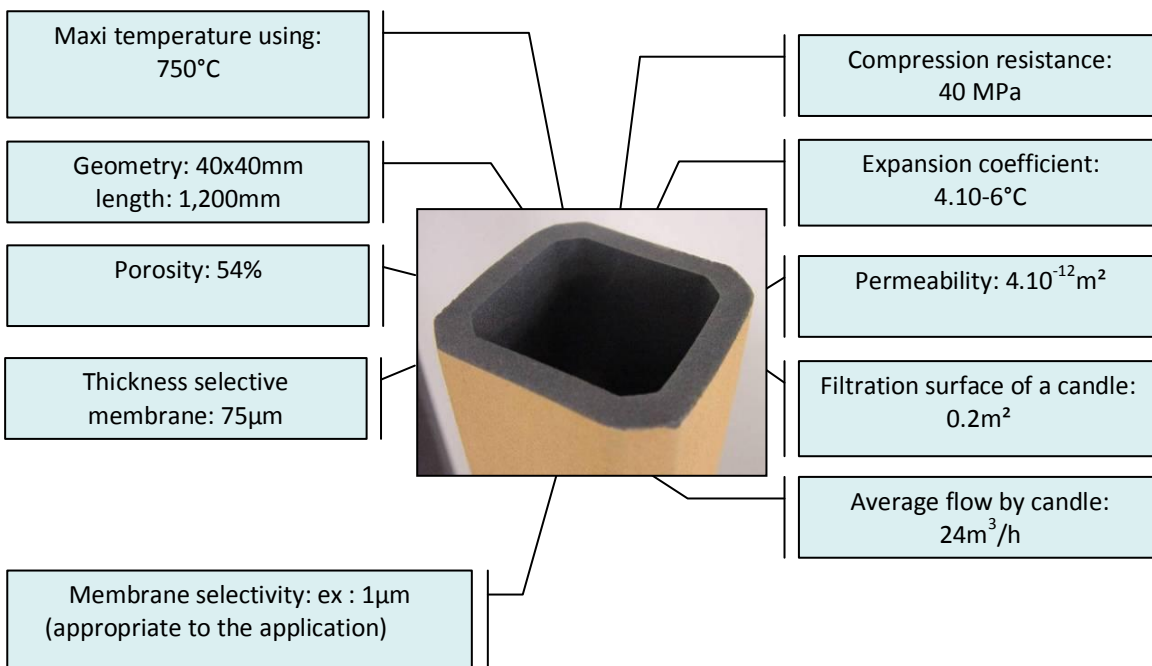
HIGH TEMPERATURE HOT GAS FILTRATION BY CTI

1) HIGH TEMPERATURE COMPACT DUST REMOVER

Whatever is your application, thermal station, chemical or petrochemical industry, cement factory, incinerator, treatment and catalysts recycling, or any other high temperature filtrations, CTI has the complete solution: its new hot gas filtration system (until 750°C) including silicon carbide membranes answers to the high level requirements concerning industrial gas rejection.



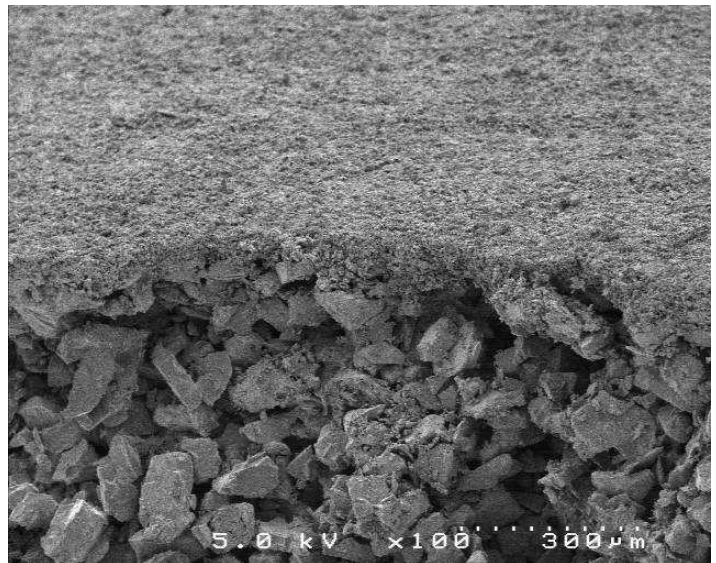
2) CHARACTERIZATION



Ceramic membrane :
 Thickness 75µm
 Ø pores 3µm



Ceramic support :
 Thickness 5mm
 Porosity #54%

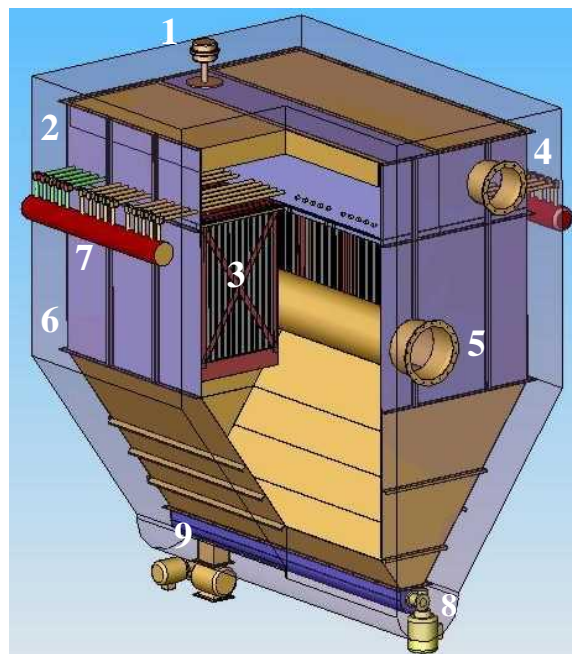


Technology

Porous ceramic candles are arranged in a casing in a honeycomb way. Warm gas penetrate from outside the candles and flow through porous walls finely calibrated and then evacuated. Particles to filtrate fix on the ceramic membrane and become the « cake » which is automatically evacuated by air pressure flow (reclogging « jet pulse »).

Assembly :

- 1 – Level sensor
- 2 – Pneumatic valve
- 3 – Casing
- 4 – Clean gas
- 5 – Fumes
- 6 – Insulating
- 7 – Air vessel
- 8 – Extraction screw
- 9 - Alveolar



Performance

99.9% of efficiency of polluting particles filtration:

- limit the fouling of boilers and exchangers
- improve thermal transfer between different circuits

Improvements

No cooling of incoming gas:

- benefits and possibility of using calories from cleaned warm gas

P very small:

- need of less powered extractor

Endurance

High chemical and thermic resistance at hot temperature:

- thermic stability and high resistance to chemical corrosion at hot temperature of the carbure-based or high purity ceramic oxides-based membrane

Cleaning

Roughness of the membrane almost null:

- no catching of dust

Automated declogging by P:

- penetrating speed controled

Simplicity

Handling and assembly on site simplify by pre-build casing with a capacity of 1200m³/h each one.



3) PILOT FILTER



Filtrating surface: 1m²

Flow: 100 m³ /h

Loss pressure: 200mmCE

Max temperature: 450°C

4) REALIZATION

a) Industrial High Temperature Dust Remover



- Flow: 11 400m³/h
- Max temperature: 450°C
- Dust concentration: 1g/m³
- Dust Granulometry: D50=2µm
- Filtration speed:1.8m/min
- Loss pressure: 250mmCE

b) Polar module



- Bulk: 1700x800x700
- Premise temperature: -20°C à +50°C
- Max temperature of fumes: 400°C
- Filtration flow: 100 m3/h
- Voltage supply: 400 V
- Air compressed supply: 4 to 8 bars
- Air compressed average consumption: 5L/h
- Dust storage: 12 Liters

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