

# PYROFLUID®

REDUCING QUANTITIES • HEALTH SAFETY • MULTI-PROCESS RECYCLING

## Sludge incineration, energy recovery and ash recycling

### Applications

PYROFLUID® is a thermal treatment solution that oxidizes organic matter contained within sewage sludge. It is a fluidised-bed incinerator (where sand is maintained in suspension by a constant up-flow of air) that operates at approximately 900°C in order to incinerate sludge within a matter of seconds.

PYROFLUID® is able to:

- treat both urban and industrial sewage sludge within plants of variable capacities (200 kg to 5 t DS/hr\*);
- produce stable and recyclable by-products (ash, dust);
- comply with the most strict emission standards.

\*ton of dried solid / hour

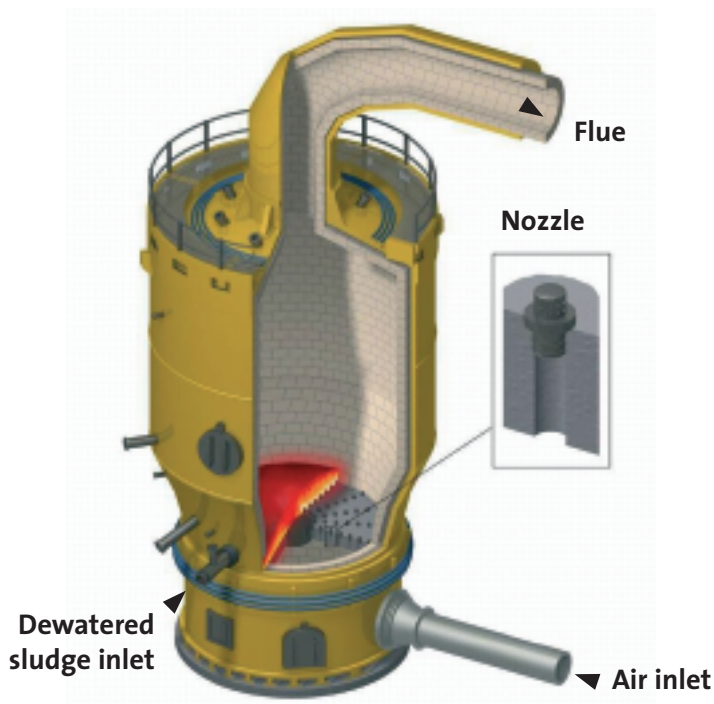
### PYROFLUID®, a safe process

Depending on the characteristics of the ash produced by PYROFLUID®, it can be:

- > recycled for use within road construction;
- > used for the production of concrete;
- > discharged to a landfill.

The type of **flue gas treatment** will depend on the facility's incineration capacity and includes at least dust extraction and removal of acid pollutants, using a dry or wet method. It complies with the most rigorous European regulations on the incineration of sludge.

### Process diagram



Le Havre (France) – The PYROFLUID® incinerator



## Performance

- > Total mineralization of sludge;
- > 100% reduction of initial sludge quantities combined with mineral by-product recycling (road construction and civil engineering projects);
- > Total destruction of pathogens;
- > Energy recovery:
  - recycling within the combustion process (in order to reduce the need for additional fuel);
  - heat distribution;
  - production of electricity (to meet the plant's energy needs);
- > No odour;
- > Low maintenance costs;
- > Long-term reliability: excellent resistance to high temperature, erosion and corrosion (no moving parts in the hot zones);
- > Easy operation (automated);
- > 24/7 operation.

## References

### A small selection of references:

- > Saint-Petersburg, Russia (2006) - 8 t DS/hr\*
- > Société Vitréenne d'Abattage\*\*: Vitré city slaughterhouse, France (2002) - 1,5 t DS/hr
- > Lundtofte, Denmark (2001) - 0,4 t DS/hr
- > Colombes, France (1998) - 8 t DS/hr
- > Rouen Petit-Quevilly, France (1997) - 3 t DS/hr
- > Coleshill, United-Kingdom (1996) - 5 t DS/hr
- > Lyon Saint-Fons, France (1995) - 3,6 t DS/hr
- > Seine-Aval, France (1995)
- > Petkim\*\*: petrochemical complex, Turkey (1994) - 4 t DS/hr
- > Saragossa, Spain (1992) - 4,6 t DS/hr

\*t DS/hr: ton of dried solid / hour

\*\*industrial sludge



Saragossa (Spain) – The PYROFLUID® incinerator