

# PYROFLUID™

- sludge-to-energy/matter recovery
- reducing nuisances
- health & safety

## 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 urban 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.

\*tonne of dry solids / 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 concrete production,
- discharged to 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 process. It complies with the most rigorous European regulations on the incineration of sludge.

### Process diagram



Saint-Petersburg (Russia) - The PYROFLUID™ incinerator combined with thermal exchanger

## 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 odor
- 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

## Reference plants

### A small selection of references:

- > Saragossa, Spain (1992) - 4.6 t DS/hr\*
- > Seine-Aval, France (1995)
- > Lyon Saint-Fons, France (1995) - 3.6 t DS/hr
- > Coleshill, United-Kingdom (1996) - 5 t DS/hr
- > Rouen Petit-Quevilly, France (1997) - 3 t DS/hr
- > Amphitria Cap-Sicié, France (1997)  
103,000 m<sup>3</sup>/d - 550,000 P.E.
- > Colombes, France (1998) - 8 t DS/hr
- > Le Mans, la Chauvinière, France (1999)  
54,130 m<sup>3</sup>/d - 315,000 P.E.
- > Lundtofte, Denmark (2001) - 0.4 t DS/h
- > Toulouse Ginestous, France (2004) - 2 t DS/hr
- > Saint-Petersburg, Russia (2006) - 8 t DS/hr

\*t DS/hr: tonne of dry solids / hour

