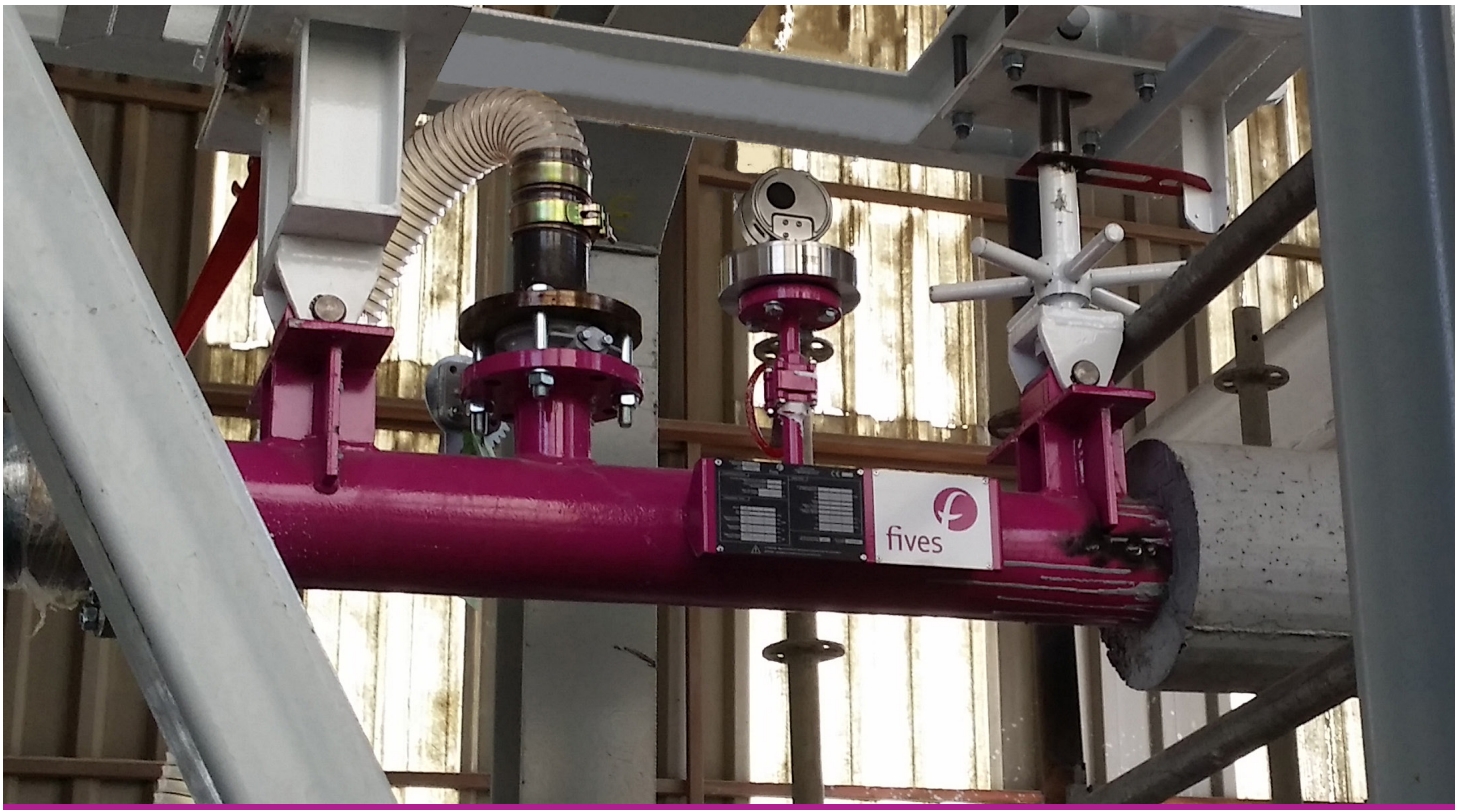
fives

PROCESS TECHNOLOGIES

ENERGY | COMBUSTION

Pillard PFZ™

Satellite injector for rotary kilns



A complementary device to further increase ASF substitution rate

- Proven solution adaptable for your specific fuel and process requirements
- Efficient even with very high moisture content solid fuels
- Designed to fire coarse particles
- Available in two versions to fit secondary and tertiary air flow distribution
- Adjustable positionning for maximized pre-devolatisation
- Controllable ballistic parameters

Tailor made peripheric fuel nozzle (PFZ) for rotary kilns

Pillard PFZ™ increases ASF substitution rate thanks to particle pre-heating and optimized residence time.

STRAIGHT TO THE RIGHT POINT

The Pillard PFZ™ device enables ASF injection in the most favorable zone for efficient particle combustion and good kiln operation. Indeed, particles have to remain in the most turbulent, hot and oxygen-rich region near the burner zone as much as possible.

Depending on their size and specific surface area, particles can reach this favorable zone using the burner's internal injection device. However for coarse and high moisture particles which need a pre-drying and pre-heating time, the external injection can be the solution as long as kiln geometry and operation mode is well assessed.

ACHIEVING MAXIMAL SUBSTITUTION RATE

ASF injection tests were carried out at the Fives European Combustion Centre (FECC) were carried out to understand particle ballistics with various types of ASF. As a result, a series of design criteri+a have been defined and confirmed at an industrial scale in several plants for kilns with or without tertiary air. They are adapted to the high diversity of alternative fuel available on the different continents: biomass, plastics, domestic waste... As an example, replacing 90% of the main fuel using coarse ASF in the kiln has been achieved using Pillard PFZ™.

AN ADJUSTABLE TOOL

To master the ideal injection point, the Pillard PFZ™ device allows to modify not only injection orientation and penetration in the kiln, but also solid fuel injection velocity for the best results possible.

More than an injection device, it is an essential tool to adapt to any variation of the fuel supply characteristics.

Selected references	
Vicat (France)	4,5 t/h of a mix of impregnated wood and plastic
Heildelberg (Greece)	5 t/h of dried sludge with very low LHV and low volatiles
Holcim (Germany)	2 satellites of 10 t/h of fluff in the same kiln, total 20 t/h (90% substitution rate)

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