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Combustion tests using a 50 kW stoker burner



VTT

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## 50 kW stoker burner



Workshop in Jyväskylä 23 May 2007 - AshRichPellets



## How tests will be carried out

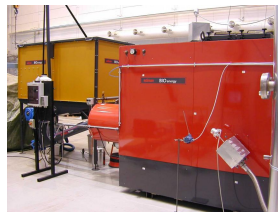
- t Based on EN 303-5 standard method for operation
- t Nominal heat output and partial load (30 %)
- t Efficiency by direct method
- t CO<sub>2</sub>, O<sub>2</sub>, CO, OGC, NO<sub>x</sub> and SO<sub>2</sub>
- t Fine particles (PM10) by ELPI (particle number distribution) and by normal impactor (mass distribution)
- t FTIR for HCL and others
- t Ash analysis by XRF
  
- t Comparison of results with earlier done (wood chips, wood pellets, barley grain)

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## Test rigs for solid fuel boilers

- t Test rig for solid fuel boilers (up to 70 kW)
- t Test rig for solid fuel boilers (70 ... 300 kW)
- t Built according to EN 303 – 5



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## ELPI and DLPI

Low pressure impactor for particle mass measurement



Electrostatic low pressure impactor for particle # measurement

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## Fuels to be tested

- t Wood pellets
- t Bark pellets
- t Reed Canary Grass pellets
- t Rape Seed Straw pellets
- t Wheat straw pellets

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## Financial issues

- t Total budget 75.000 €
- t Financing from Finnish National Technology Agency  
60% = 45.000 €
- t 30.000 € from VTT and a boiler company Ariterm  
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