

Kvaerner Power



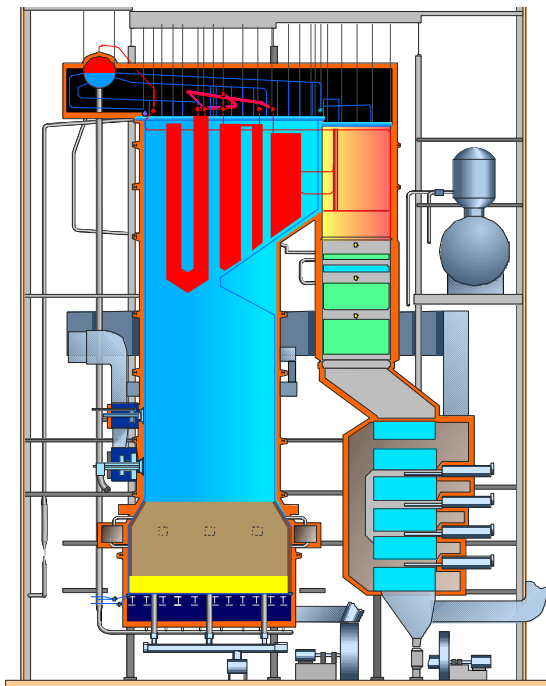
Waste Combustion in Fluidized Bed Boilers

Bengt-Åke Andersson

2004-05-24 IEA FBC Workshop, Vienna

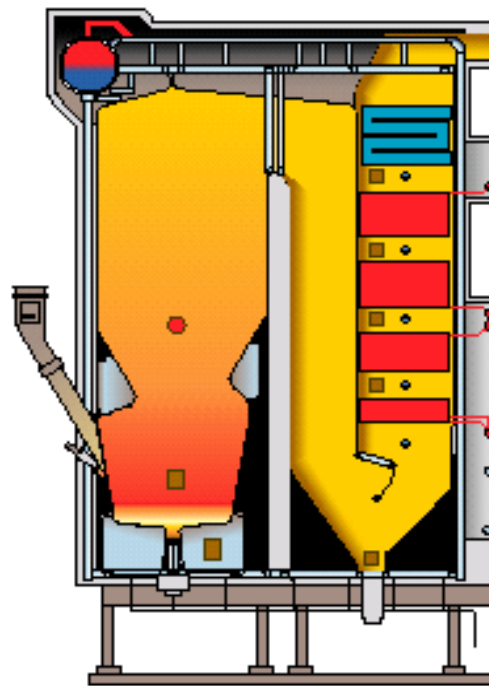
AKER KVÆRNERTM

Kvaerner boiler types for waste combustion



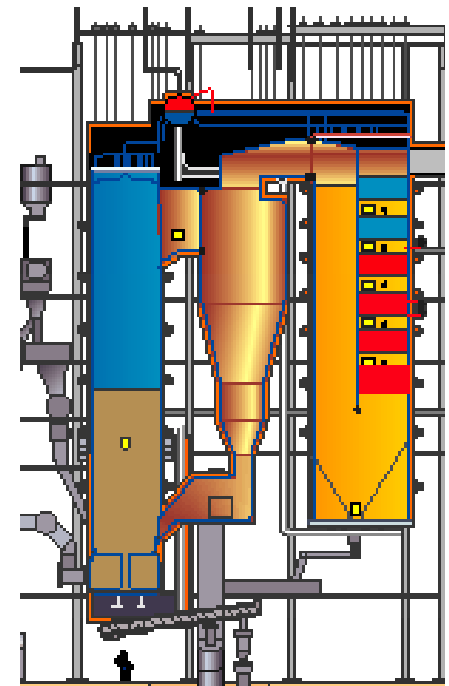
HYBEX

Pulp&paper ind.



ACZ

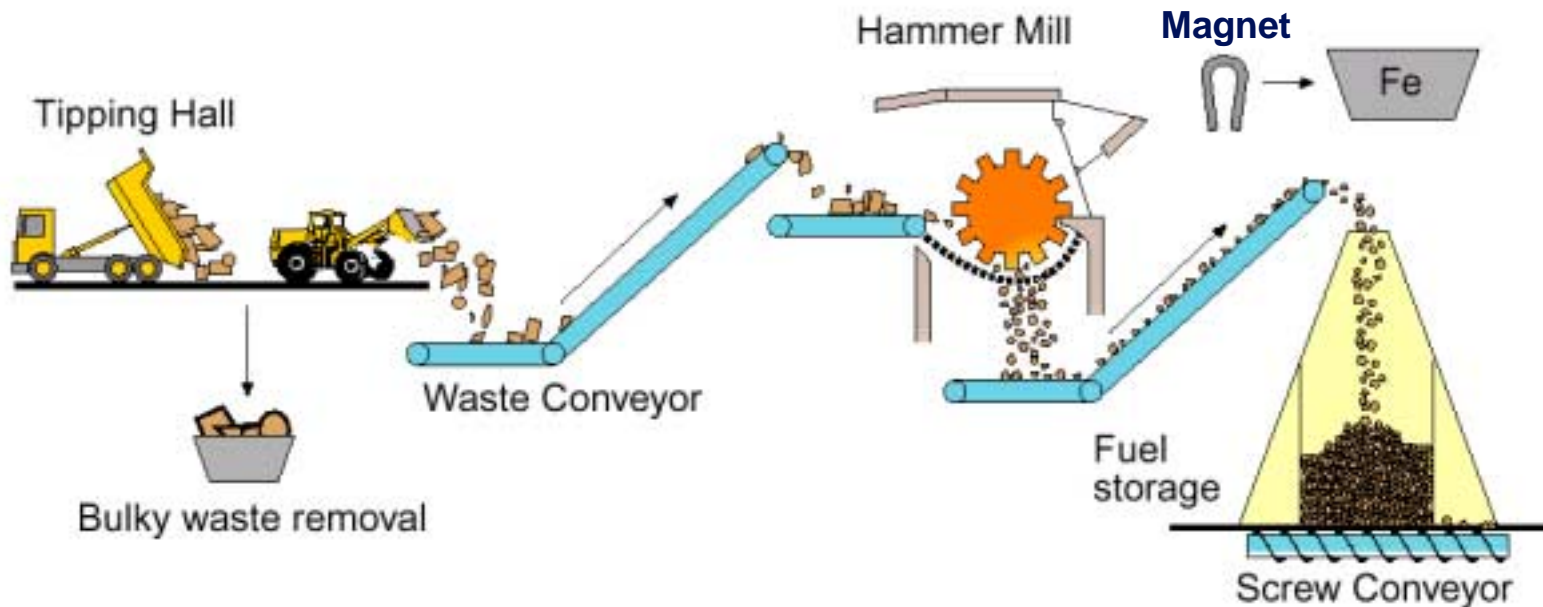
MSW, RDF, etc.



CYMIC_e

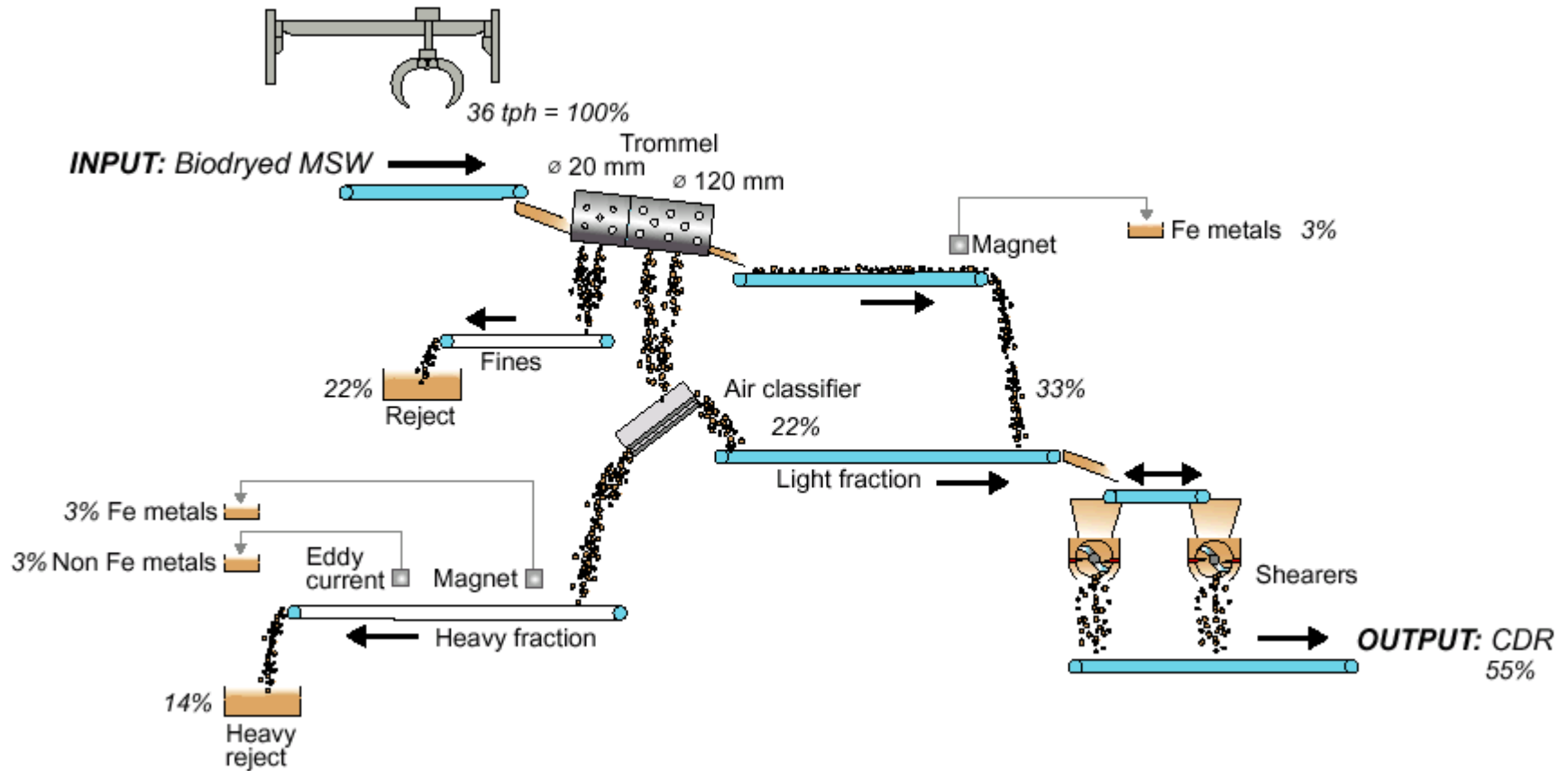
Larger capacity

Basic Swedish concept



- Household waste & light commercial waste
- Local waste suppliers: instructions & discipline
- Entry inspection & reject picking crane

EcoEnergia concept (Italy)

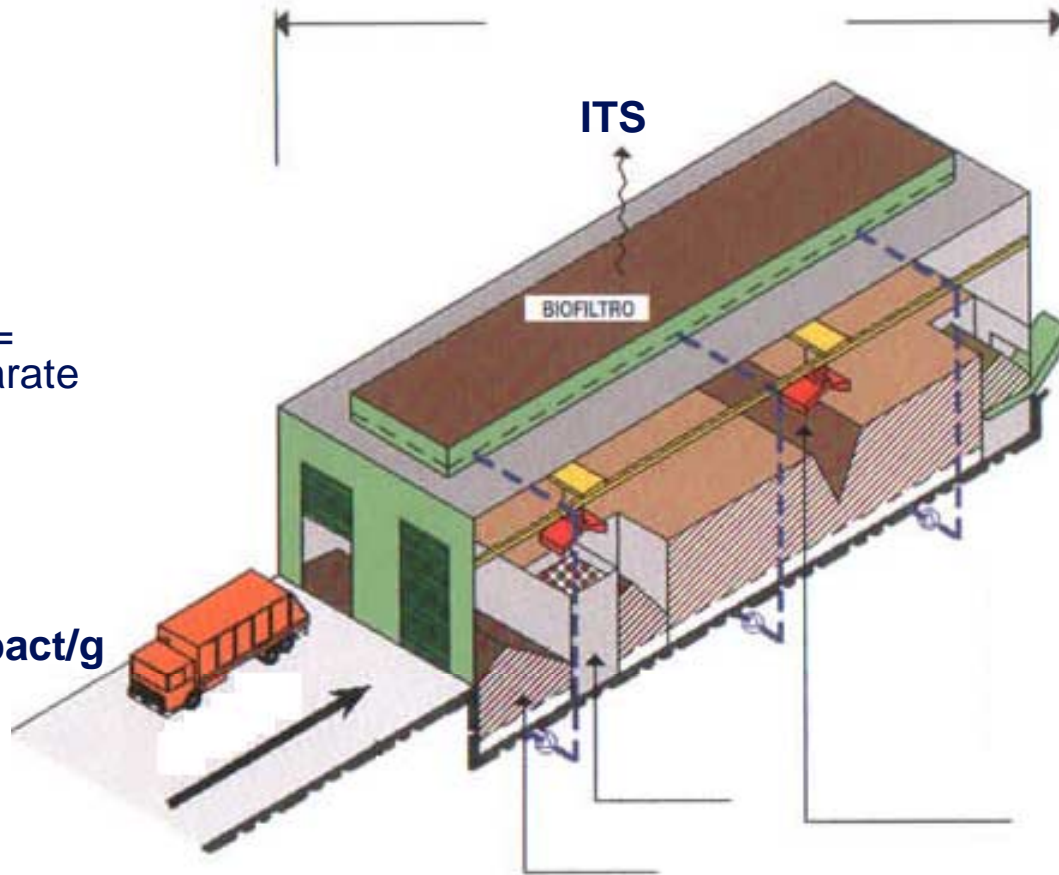


EcoEnergia biodrying (ITS)

•Wet = Sticky = difficult to separate

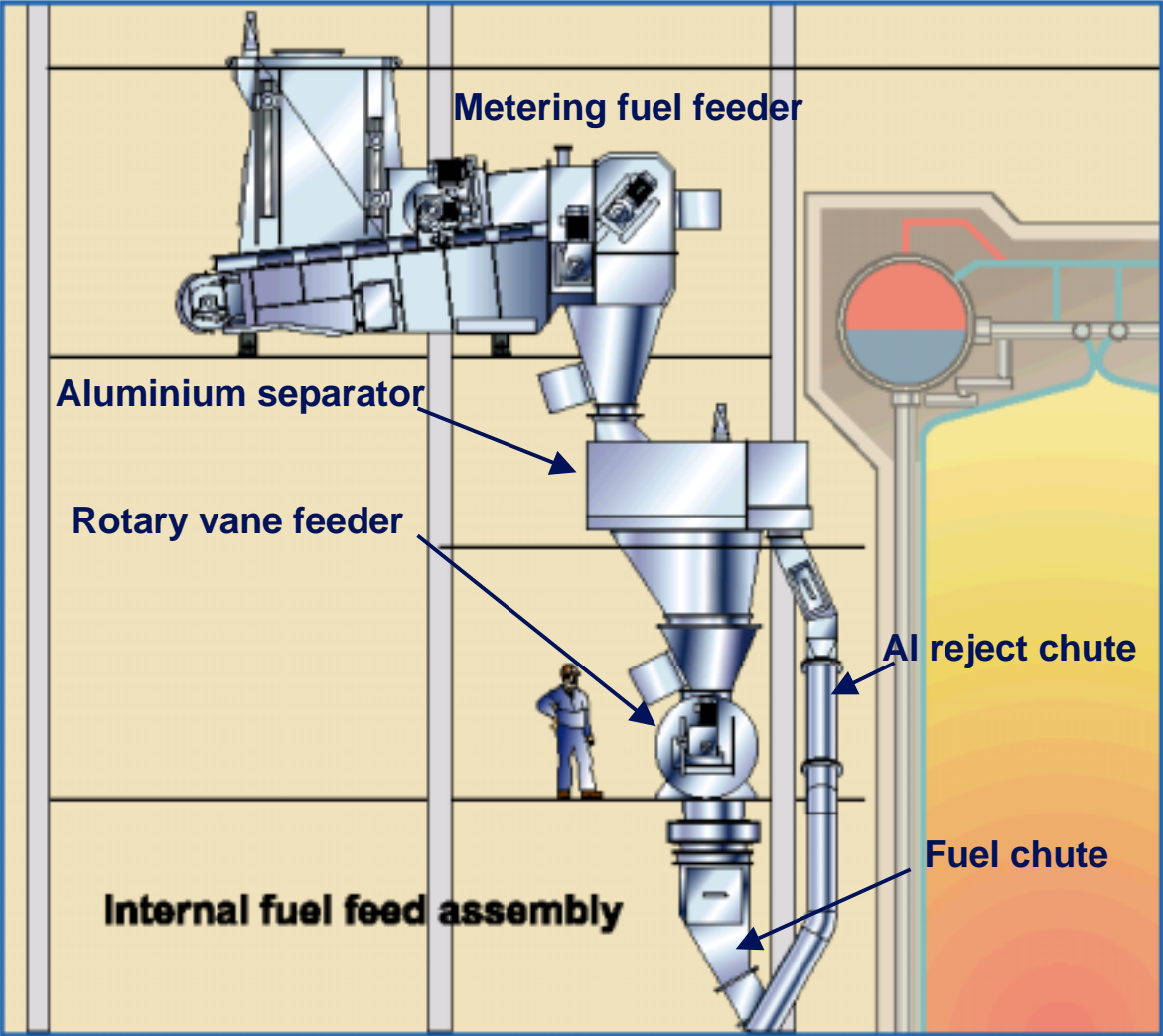
- Malodorous
- Voluminous
- Infectious

< 20 mld colibact/g

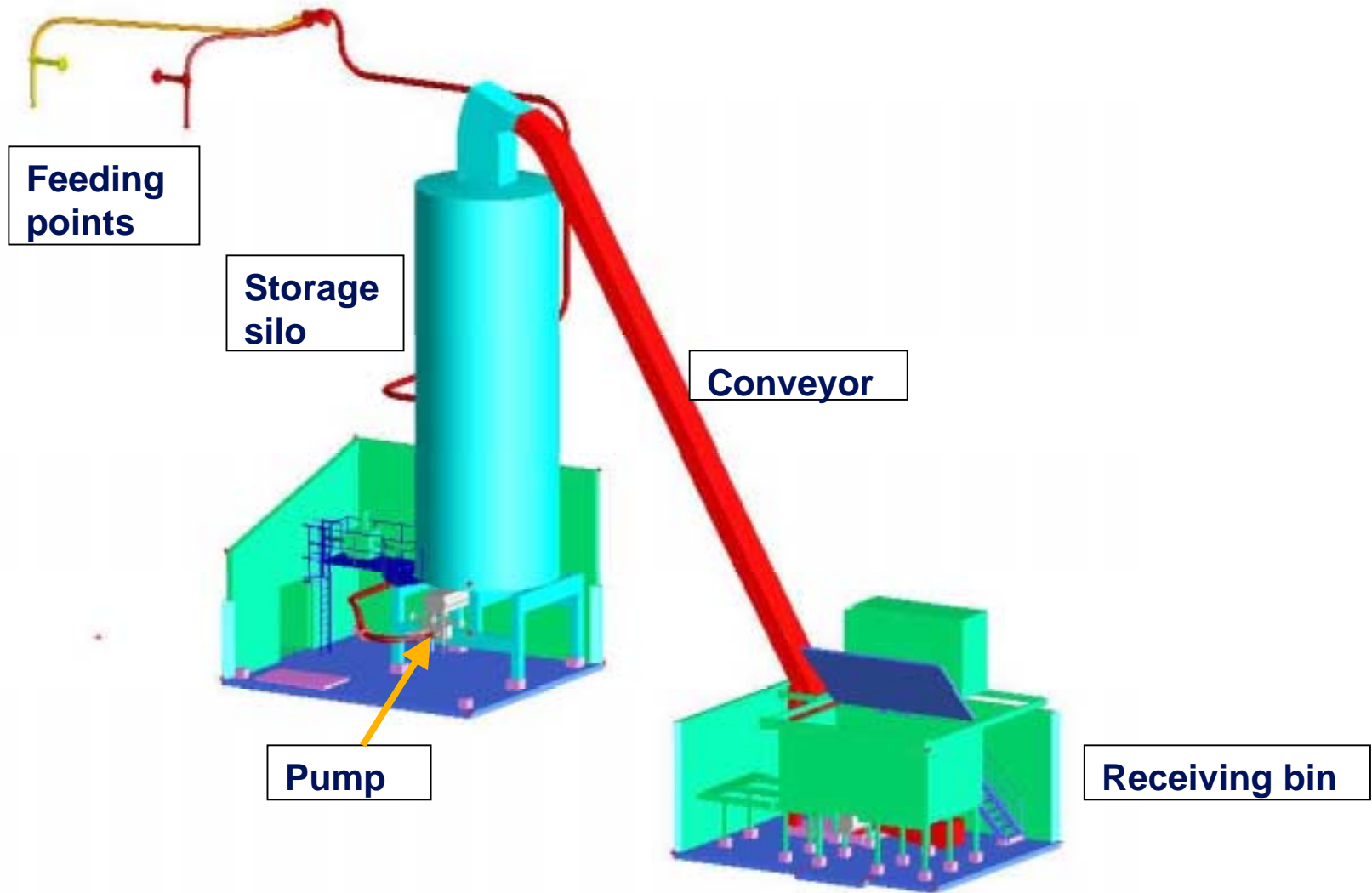


- Dry = easy to separate
 - Not smelly
 - Light
 - Compact
 - Sanitary
- < 200 colibact/g**

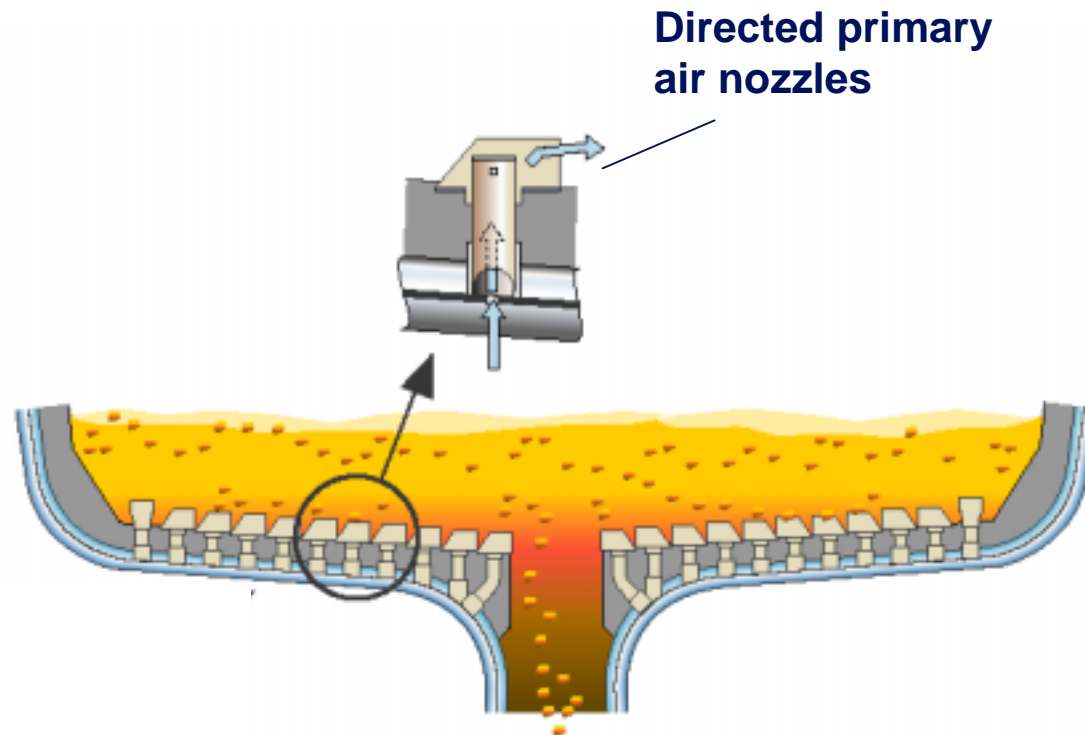
Internal fuel feed assembly



Sewage Sludge Feeding - Norrköping 75 MW CFB



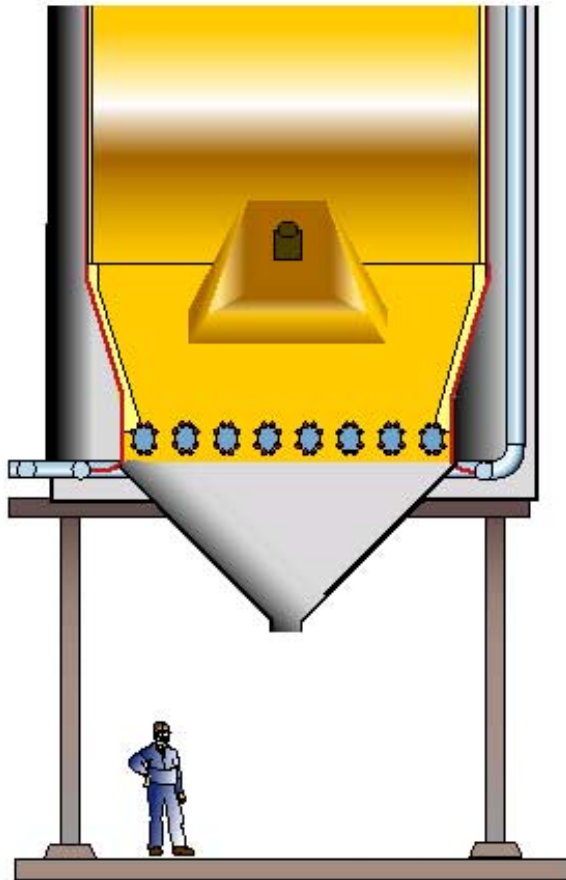
Bed ash discharge



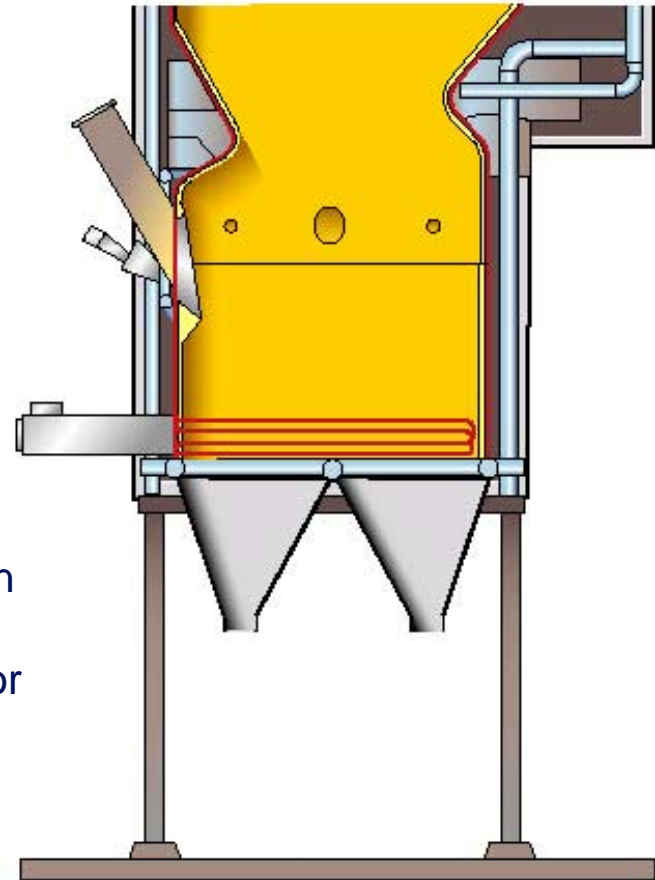
Directed primary
air nozzles

The furnace floor is inclined
towards the discharge opening

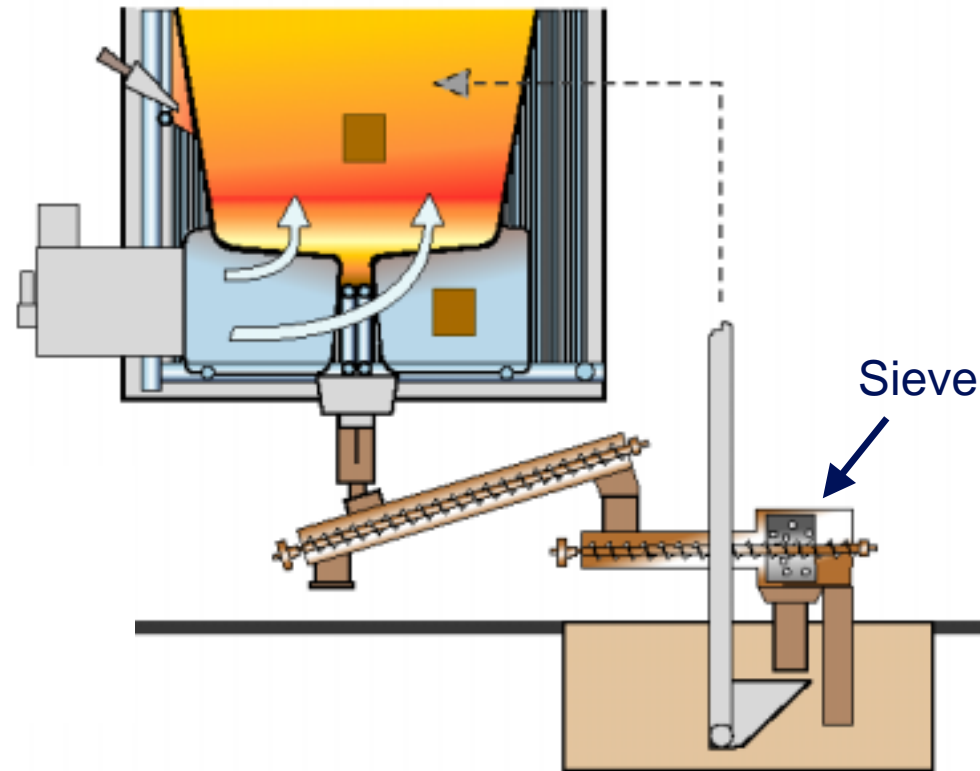
Hydrobeam bottom, Nynäshamn ACZ



A large fraction of the furnace floor is open for ash discharge



Bed ash recovery by a mechanical sieve

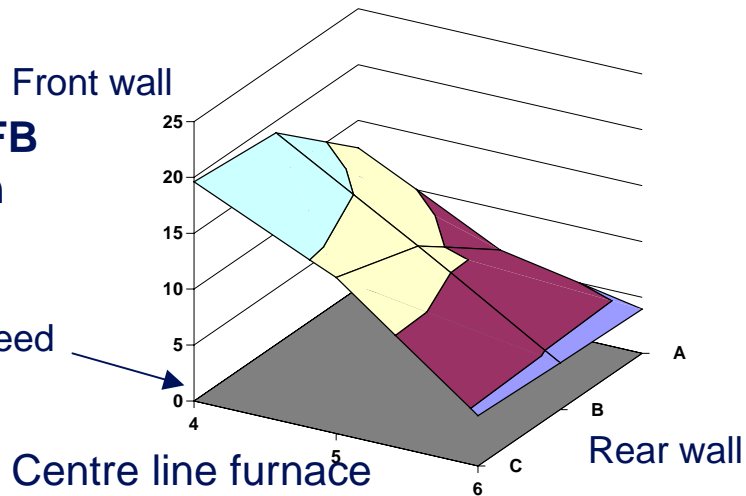


ACZ: Furnace in-situ measurements

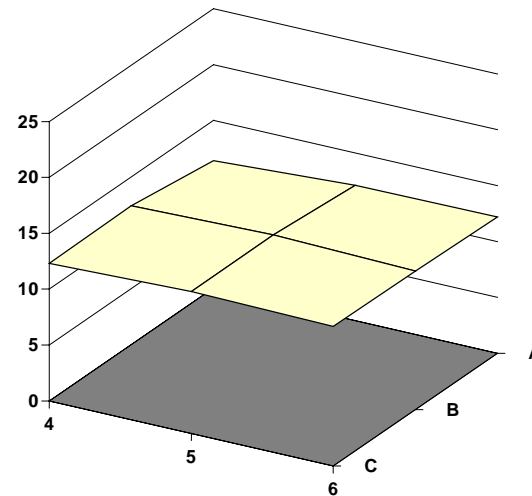
CO₂+CO+HC distribution across the furnace above the arches

Old BFB
design
Y1993

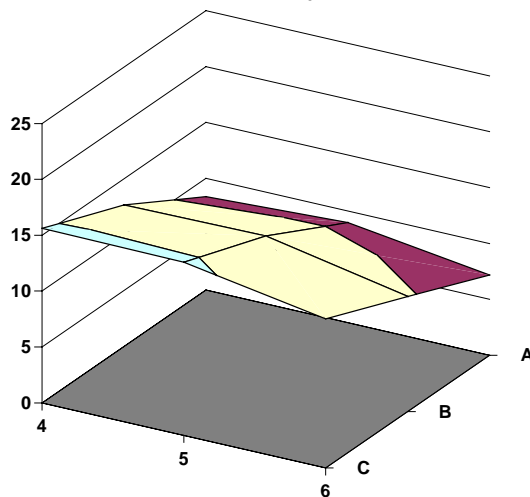
Fuel feed



ACZ
Y1994



Air-swept
fuel chute
Y1993



NO_x reduction by SNCR

