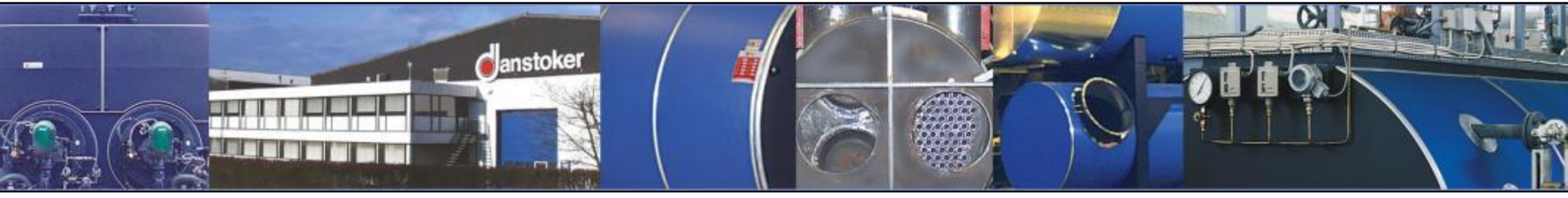
# Behind the Danstoker-blue surface

....

# an introduction




## Boilers since 1935

# PRODUCT GROUPS

For Industrial, Commercial and District Heating

OIL / GAS BOILERS

BIO- & SOLID FUEL BOILERS

CO-GEN. BOILERS & WHRB

# Hot Water Boilers and Hightemperatur Hot Water Boilers

- Oil / Gas fired:

Gas: Natural gas, Bio-gas, Landfill gas etc.

Oil: LFO and HFO as well as Bio- & Vegetable oil's

- Capacities up to 50 MW
- Max 32 bar

# Danstoker Steam Boilers

- Oil / Gas fired:

Gas: Natural gas, Bio-gas, Landfill gas etc.

Oil: LFO and HFO as well as Bio- & Vegetable oil's

- Capacities up to 50 t/h
- Max 36 bar

# CO-GEN. BOILERS & WHRB

# Danstoker Exhaustgas Steam Boilers

AMD Energy Center Dresden 8+8 pc.

- Capacities up to 20 kg flue gas/sec.

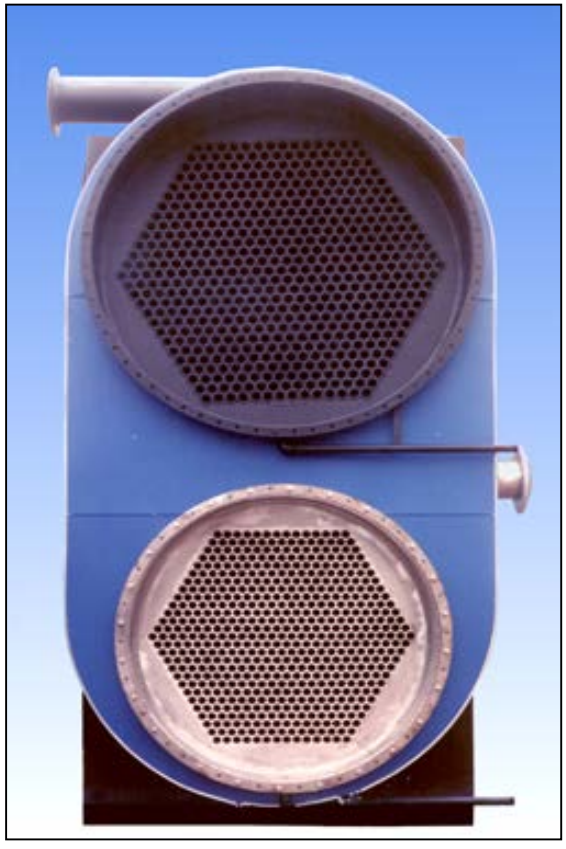
- Energy:

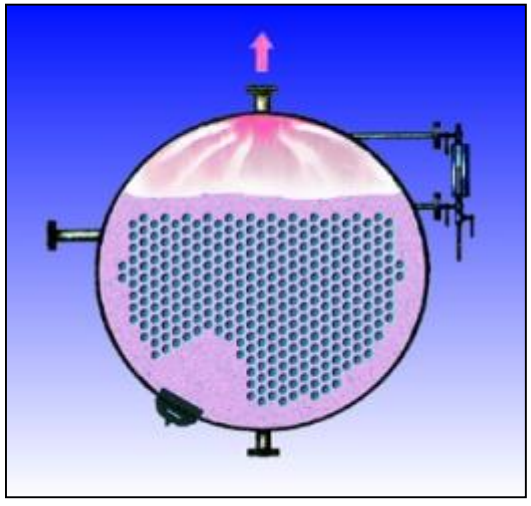
  From Engines, Turbines, Processes, Combustion etc.

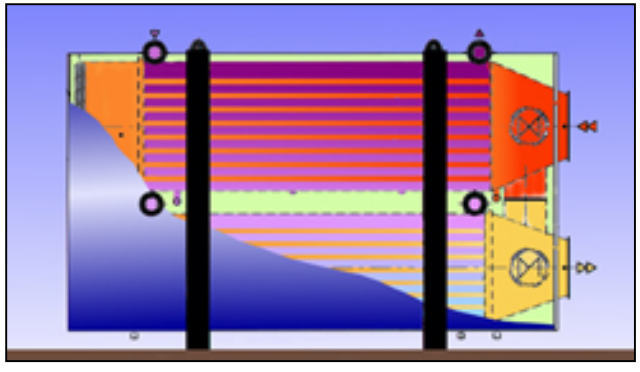
Avezzano, 9 pc.
Texas Instrument, Italy

# Examples: Design Co-gen Boilers

HW-boiler with High & Low Temp. Section







Composite Steam boiler with a Fired and an Engine section

# BIO- & SOLID FUEL BOILERS

Pellets

Sawdust

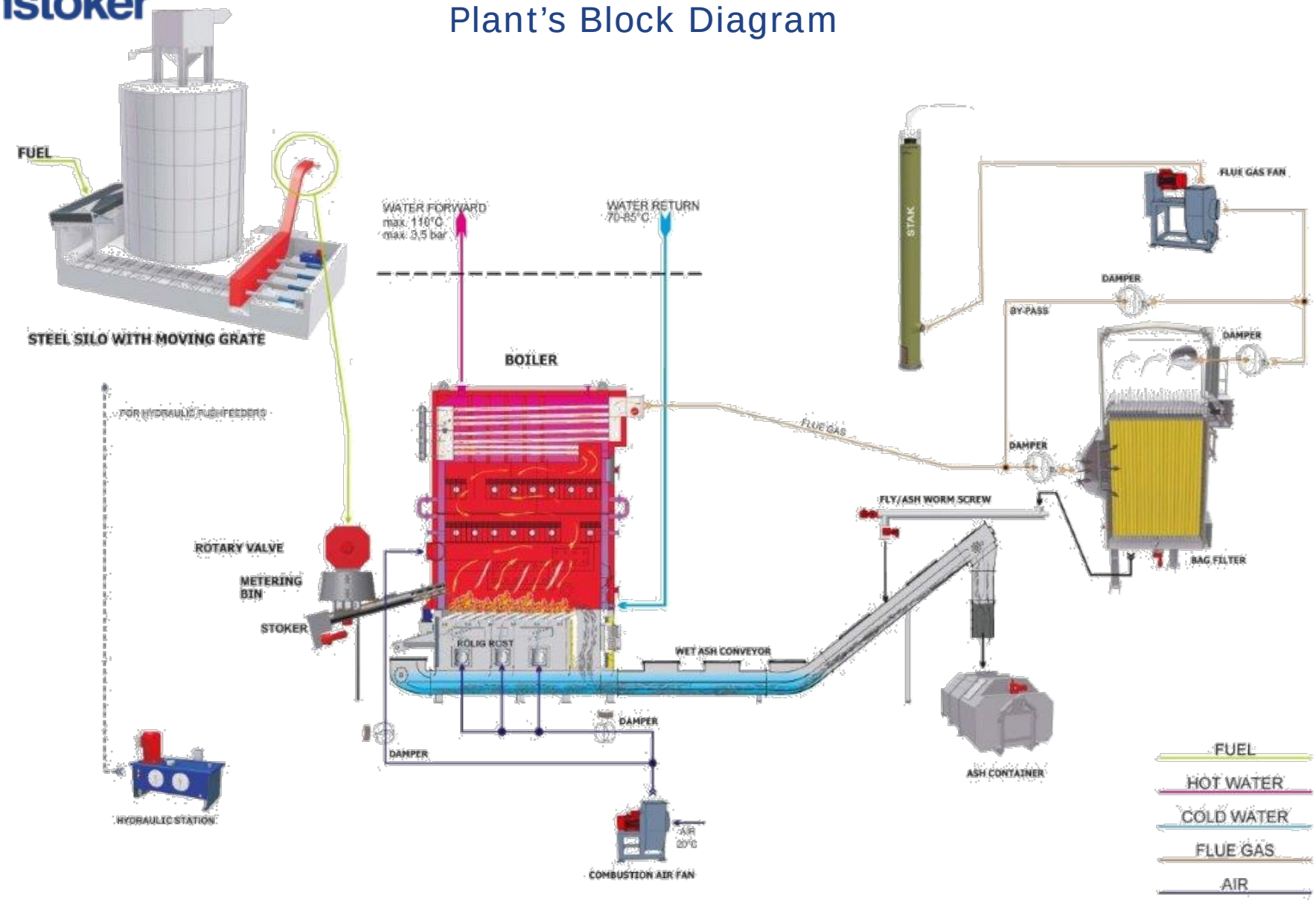
Grain

Straw

Bark

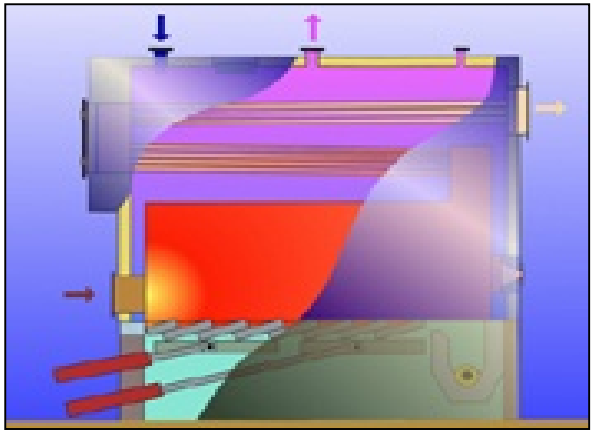
Wood-chips (wet or dry)

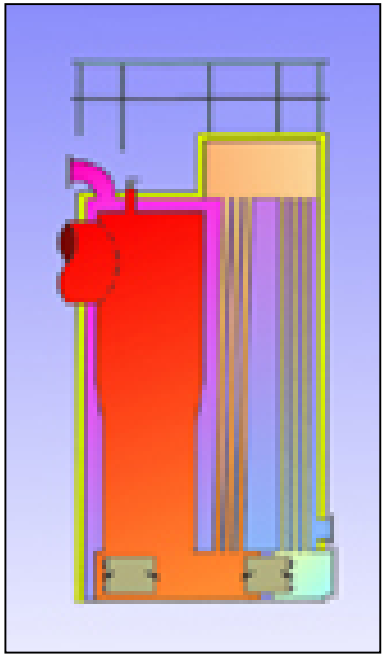
# Plant's Block Diagram



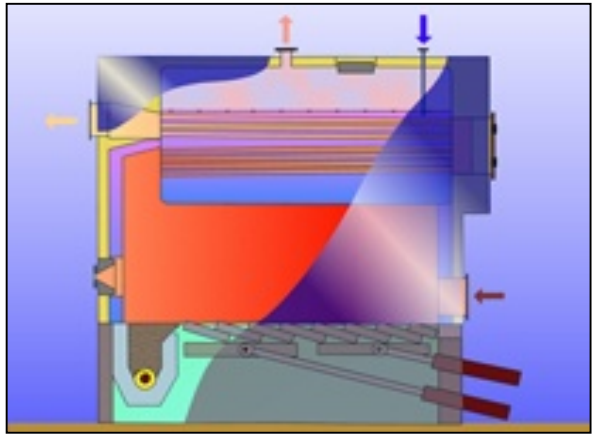
# Examples: Design Bio-fuel Boilers

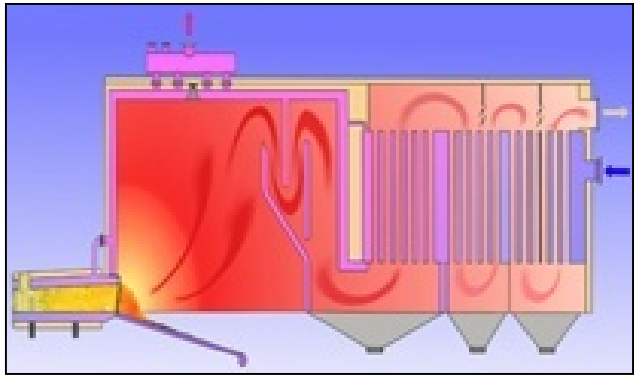
## HW - HTHW boiler





## Steam boiler





# Danstoker Bio-fuel Boilers for Hot Water


- Bio-fuels:

  Wood-chips (wet or dry), Straw, Pellets, Grain, Sawdust, Bark, Energy crops, Husks, Residue, etc.

- Capacities up to 20 MW
- Max 16 bar

# Danstoker Bio-fuel Boilers for Steam

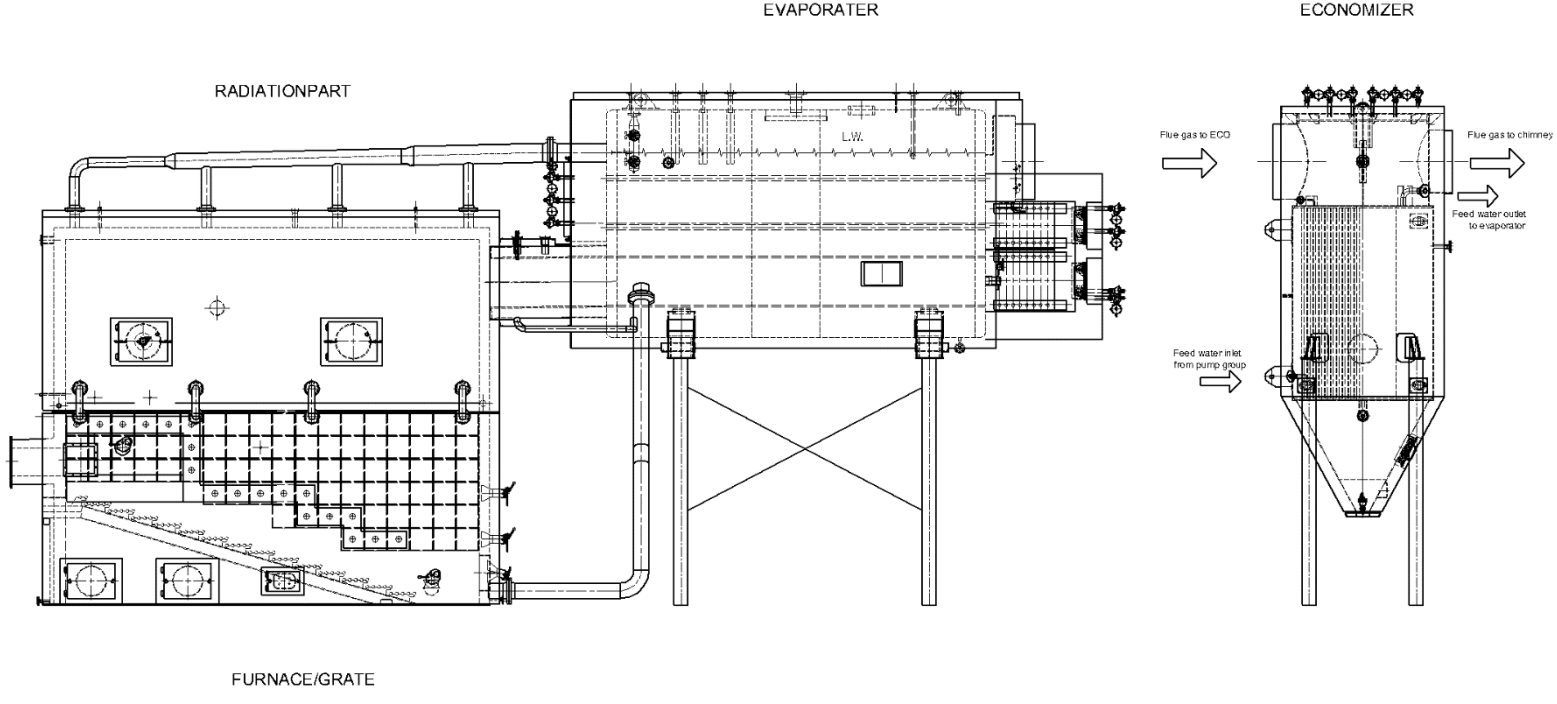
- Bio-fuels:

  Wood-chips (wet or dry), Straw, Pellets, Grain, Sawdust, Bark, Energy crops, Husks, Residue, etc.

- Capacities up to 15 t/h
- Max 32 bar

# Bio fuel boiler

## Drawing of a boiler plant with a radiation part, a flue gas tube convection part and economizer




JLG LIFT
WEISS A/S ©

# Danstoker Biofuel Boilers

Ystad, Sweden:

District heating Plant

Wood chips

# Installation of the Absorption Heat Pump

E**xample :**

The examples below are made on basis of a typical Danish district heating application with a rating (heat output) of 7 MW, combustion of wet wood waste with a humidity of 55%. Return temperature to the plant is 45 °C and a desired water flow temperature out of the boiler at 90 °C.

| Example | Design of the district heating plant | Achietable efficiency |
|---|---|---|
| No. 1 | Installation of a boiler with cooling of flue gases to 184 °C | 84% |
| No. 2 | Installation of a boiler + ECO for cooling of the flue gases to 120 °C | 89,5% |
| No. 3 | Installation of a boiler + ECO + Scrubber 1 for cooling of flue gases to 50 °C | 110% |
| No. 4 | Installation of a boiler + ECO + Scrubber 1 + Scrubber 2 + an AHP for cooling of flue gases to 25 °C | 123% |

This means that – when applying solution No. 4 - with the same heat input of 8332 kW you will achieve a heat output of 10284 kW from the district heating plant at a temperature of 90 °C.

# Smart Energy of the future