

# AARHUS PROTEIN A/S

Complete 5 MW steam boiler  
for firing with biomass fuel



 AARHUS  
PROTEIN

**LIN-KA**  
ENERGY  
a part of  LINKA group



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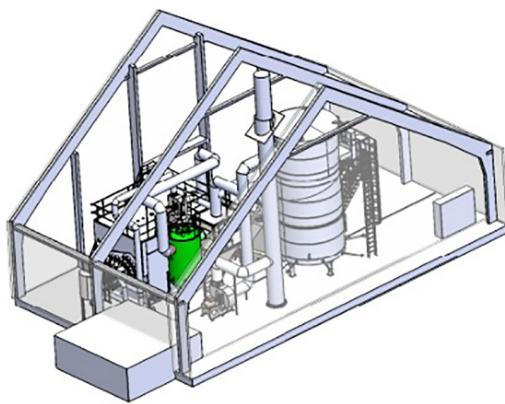
<b>Fuel type:</b>	Wood pellets and agricultural waste
<b>Size:</b>	5,000 kW
<b>Plant type:</b>	Linka H steam
<b>Energy type:</b>	Steam boiler
<b>Year of construction:</b>	2022

Aarhus Protein was founded in 2013 and produces plant-based proteins used by international food producers in the production of items like meat alternatives, dietary supplements, high-protein bakery products, as well as feed blends for livestock such as cattle, pigs, poultry, and fish.

Their overarching vision is to make climate-friendly and sustainable plant-based proteins accessible to everyone while also prioritizing environmental considerations and sustainability, thus contributing to the circular economic agenda.

Aarhus Protein had previously received steam from their neighbour company for spray drying plant protein slurry. However, as this supply was not sustainable in the long run, they chose to establish their own steam-generating facility, which would be connected to the factory's existing steam supply. The primary fuel used is wood pellets, but alternatively, it can also include fava bean and sunflower husks, as well as pure olive kernels.

The new steam boiler facility is in the existing warehouse at the corner of Jægergårdsgade/Celebesvej by the harbour in Aarhus (Denmark). Aarhus Protein themselves were responsible for the structural adaptations before the establishment of the new facility.



Overall, Aarhus Protein's goal in setting up the steam boiler facility is to contribute to the process of a sustainable and energy-efficient future within the realm of green transformation.



**Wood pellet consumption  
8.700 kg per year  
at 8,000 operating hours**

**Efficiency up to  
90 %**

**LIN-KA<sup>®</sup>**  
ENERGY  
a part of  **LINKA group**



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## The plant

The boiler consists of a 5,000 kW Linka® H Steam boiler, specifically designed for firing with dry biomass fuels such as pellets, straw pellets, and other agricultural waste products.

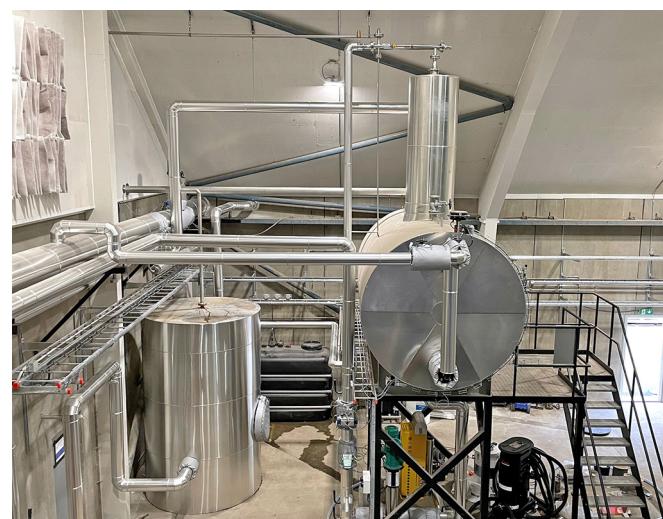
The pellet boiler is supplied with a steel silo from which the fuel is transported via 2 stoker augers to the intermediate container in the boiler room. From here, the fuel is conveyed by a stoker auger directly to the cell sluice above the stoker auger into the boiler. When steam is demanded, the boiler's firing procedure is initiated. The stoker auger starts and feeds an appropriate amount of fuel into the boiler depending on the steam demand.

The movable step grate, operated by hydraulic cylinders, is divided into 3 combustion zones. Combustion air is introduced through a patented Linka® system in a co-current principle, achieving better efficiency and emission results.

The step grate ends at the rear of the boiler, where bottom ash is discharged. Ash augers beneath the grate ensure the removal of falling ash in the 3 combustion zones, directing it to the same ash discharge as the bottom ash. Ash from the economizer, Multicyclone, and bag filter is also connected to the common ash system and is transported by ash augers to an ash container.

The flue gas system after the boiler includes a 2-pass economizer that cools down the flue gas before it is directed to the Multicyclone. In the Multicyclone, the remaining larger ash particles are separated and collected at the bottom, from where they are conveyed to the bag filter. The bag filter cleans the flue gas through bags, capturing the finer ash and dust particles. The bags are cleaned with compressed air through shot valves, causing the particles to fall to the bottom of the bag filter. A mechanical scraper arm leads the particles to the common ash system. The flue gas is now purified before being directed through the flue gas fan, sent to the existing chimney, and released from there.

The control of the facility is managed by a PLC control system that monitors the facility, sends alerts via the internet and SMS, and ensures controlled regulation of fuel supply and boiler operation, always optimizing its efficiency.



Linka Energy aims to promote sustainable development in society.



We particularly focus on the UN Sustainable Development Goals; 'Affordable and Clean Energy' and 'Sustainable Cities and Communities'.

# World-class service

All newer Linka systems are fully documented, which means that we can easily and quickly identify all components in your specific system. With our own spare parts inventory, we can deliver on a day-to-day basis in most cases, and in critical situations, within a few hours.

What sets Linka apart is our in-house production department, allowing us to manufacture, customize, and perform repairs on components internally.



**Large spare parts inventory  
with 3,000 item numbers**

**24/7 telephone support  
- all year round**

**Remote troubleshooting of  
controls**

Linka is a flexible company that is close to its customers. We believe in providing excellent service, even after sales and installation. We take pride in ensuring that the systems operate optimally.

Our service department consists of highly competent and experienced employees who are ready to help if any mishaps occur. Often, we can troubleshoot and provide advice over the phone or through email. If needed, we can also send a service technician to assist you.

## Would you like to know more about your options?

Our service department is ready to advise you on your possibilities, and we are happy to provide a non-binding offer for a service agreement tailored to your specific needs.

**Contact us at +45 9734 1655**



## SERVICE & SUPPORT

Competent service ensures trouble-free operation.

**LINKA**  
ENERGY  
a part of 