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POWER GENERATION

EFFICIENT FUEL HANDLING SOLUTIONS SERVE POWER-GENERATION SYSTEMS

The world's increasing population is not only driving the demand for food and infrastructure, but also energy. The ability to deliver efficient, environmentally sustainable equipment solutions for handling and processing raw materials for power-generation systems is gaining ever greater importance.

One of the most critical roles of the global dry bulk sector is to secure the fuel supply lines for power-generation processes; a continuous, reliable source of material is essential.

We have a strong global reputation for handling dry bulk fuels for power-generation systems. Coal continues to play a major role, but biomass is also gaining ground in the power-generation process. In the port, our totally enclosed Siwertell screw-type ship unloaders cleanly and efficiently discharge solid, free-flowing fuels, such as coal and biomass, from vessels, eliminating spillage and dust emissions. Cargo is picked-up below the surface, and a layer-by-layer unloading method minimizes cargo avalanches and dust creation inside the hold.

READ CUSTOMER CASES ABOUT SHIP UNLOADERS



SUSTAINABLE COAL HANDLING FOR POWER GENERATORS

Our Siwertell unloaders are the most environmentally friendly, shore-based bulk handling systems available on the market for discharging all types of coal and petcoke from a vessel. This capability sees our totally enclosed screw-type ship unloaders, loaders and conveyors deployed in the most environmentally sensitive areas in the world.

For coal, our unloaders offer rated capacities up to 3,000t/h or it can be loaded at 8,000t/h with our high-capacity loaders, and on the jetty, we have a comprehensive range of conveyors that match the capabilities and environmental credentials of our market-leading unloaders and loaders. Together this equipment offers high-volume power-generation installations, systems and processes the reliable and sustainable delivery of fuel.

ship loading



MULTI-FUEL CAPABILITIES

Renewable sources of energy are an urgent focus, with numerous countries declaring the intention to cut carbon emissions through renewable power-generation systems and processes. For many, this includes biomass.

Our Siwertell ship unloaders can maintain critical fuel supplies for power-generation systems, regardless of fuel type. The same unloader can handle a shipment of coal, of all varieties, and then switch, for example, to biomass pellets with no maintenance interval required.

Siwertell screw-type ship unloaders offer continuous rated biomass unloading capacities of up to 1,200t/h, and crucially, maintain the quality of this fragile cargo by handling it gently.

ship unloading



MAKING THE RENEWABLE SWITCH

Bruks Siwertell technology is helping many energy companies, and other power-generation processes and facilities, which once relied on coal as their power source, to make the energy switch to biomass. This includes compressed wood pellets, wood chips, waste wood residues and many other organic forms of waste, including agricultural and food production waste.

In Denmark, Ørsted, formally Denmark Oil and Gas (Dong Energy), has eliminated coal use at its industry-leading Avedøre combined heat and power (CHP) station, near Copenhagen.

It is served by a Siwertell ST 790-D unloader, which has operated at Avedøre harbor since 2013 and now exclusively unloads biomass, having made the switch from coal effortlessly in 2016, along with the plant. The pioneering power system generator has now exclusively turned to renewable sources.

full customer case



SUSTAINABLE FUEL SUPPLY CHAINS

Our equipment ensures that all types of wood biomass is handled and processed efficiently, including the harvest of timber from forests to the processing of waste wood residues. We are part of sustainable supply chains. These take in the production, transfer, import and export of biomass using systems such as ship unloaders and loaders.

For example, Drax is the largest generator of renewable power in the UK, with

a target to be carbon negative by 2030. Our systems serve the company all the way from pellet production in the US to power out in the UK.



In the US, Drax Biomass prides itself on the production of pellets from sustainably managed working forests. Examples of Bruks Siwertell installations for the company include entire woodyards, dry chip handling systems, a ship loader, and dry shaving systems. Our dry shavings receiving systems expand the pellet-making capabilities of a plant without having to upgrade dryers. They ensure material flow consistency and protection from any external moisture.

In the UK, Drax depends on two Siwertell multi-fuel screw-type unloaders. The rail-mounted ST 790-D-type units are used for unloading the imported biomass pellets at Associated British Ports' Immingham Renewable Fuels Terminal to fuel Drax's nearby power station.

video illustration of supply chain

SAFELY MANAGING POTENTIAL ENERGY

Cargoes destined for power plants contain a lot of potential energy. Particularly with biomass, hotspots in the material must be avoided.

Siwertell ship unloaders manage these materials with ease, and all unloaders destined for handling biomass use a safety system based on the Siwertell sulfur safety system (4S); developed specifically for contained handling of one of the most hazardous bulk cargoes, sulfur. The 4S extinguishes fires as soon as they occur and contain any explosions, venting gases away and preventing any fires from progressing through the conveying line.

find out more

HUGE VOLUMES HANDLED EFFICIENTLY

Power system generators and facilities require some of the largest volumes of dry bulk material and different fuels dictate even higher intakes. For example, because of its lower calorific content, larger volumes of biomass are needed to maintain the equivalent levels of energy production as coal. Bruks Siwertell's ship unloaders and loaders are ready to meet this demand, keeping power-generation systems supplied with fuel.

Once at the power station, our conveying, storage and reclaiming systems continue to seamlessly deliver a consistent flow of fuel material, from coal to biomass, to the boilers, ensuring the highest efficiency and a smooth power-generation profile.



INDUSTRY ADOPTS LOW-FRICTION CONVEYING ADVANTAGES

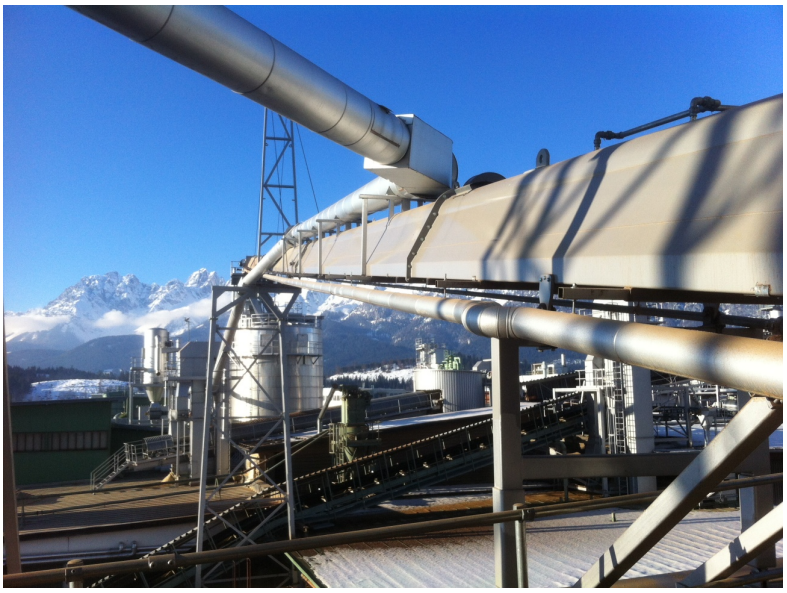
Bruks Siwertell offers conveying systems that stand significantly apart from any others on the market. Complementing our range of proven belt conveyors are air-cushion conveying systems, which are ideal for handling materials such as biomass. They eliminate the use of rollers and deliver low-friction, high-capacity conveying that offers minimal equipment wear and very low operating costs. Our innovative air-supported conveyor range includes the Tubulator™ and The Belt Conveyor™.

conveying systems



AIR-CUSHION CONVEYORS DELIVER A COMPETITIVE EDGE

Environmental protection is built into Bruks Siwertell's design philosophy and was seen as an effective option for Canadian forestry industry operator, Barrette-Chapais, who was looking to implement extraordinary levels of efficiency and environmental protection at its new 210,000 metric tons/year wood pellet production plant, Granule 777, in Quebec.



Integral to Granule 777's operation is a new air-supported conveyor system with a rated capacity of 800t/h for carrying wood pellets. It comprises a 100m-long Bruks The Belt Conveyor and a 250m-long Tubulator. The Belt Conveyor carries material from the facility's two pellet storage domes, before transferring it to the Tubulator system which feeds it to the dock where the pellets are loaded onto bulk carriers bound for Europe.

find out more

THE RESPONSIBILITY OF POWER

Meeting the needs of any bulk handling business is important, but ensuring the continuous supply of fuel to a power station, and power-generation processes in general, is a big responsibility. This is why many operators choose to secure this with round-the-clock service support; Siwertell delivers this in CARE packages.

Contact us to find out more about how Bruks Siwertell supports power-generation systems.

contact us