

STEMM grabs ensure complete filling and efficient operation



The port terminal of Auhafen Muttenz Basel (Switzerland) has just started using a completely new system for unloading its biomass cargoes and storing the commodity in large silos. Grab company STEMM has been heavily involved in this project.

STEMM's 4CH-16000-I, I type clamshell grabs, with a capacity of 16m³, are designed to handle all kinds of bulk commodities and biomass, up to a density of 1.1 T/m³.

The start-up of the installation has been carried out by STEMM's technical team in collaboration with the engineers from STEPHAN, a Swiss company from Freiburg which specializes in all types of lifting

equipment, bridge cranes and special equipment for combustion of wood and biomass sectors, wood burners and boilers feed, silos, and so forth.

In the last few years, the volume of biomass cargoes moving along the Rhine and other big European rivers has considerably increased. Biomass is so popular today that its consumption and production is on the rise in all developed countries.

Several techniques and processes have been used in handling these cargoes. Especially popular is the movement of biomass in river vessels, and the use of high — and high-capacity — silos. Efficient

operations require the use of modern equipment, components and up-to-date expertise, combined with modern technology and experience.

For the Swiss project mentioned above, Spanish company STEMM installed an electrohydraulic clamshell grab powered by four hydraulic double-acting cylinders, that work directly on the grab's shells, applying a very powerful, uniform and constant penetration strength.

The stroke of the shells uses very special kinematics which ensures complete filling, especially when handling this type of material which is sometimes extremely irregular in shape and grain size.





These grabs can work in any position within the ship, even with sloping working positions, including working in almost a horizontal position.

STEMM's grabs work 24/7, and intermittently transmit signals to the automation system, including information

on position of the valves, closed or open, incline, operation pressure, temperatures of oil and electric motor, and more.

For boats carrying very compacted materials, due to their hold conditions or weather circumstances, STEMM grabs have

their own system called 'scratching' which operates automatically and performs a previous and/or simultaneous scratch when handling the product inside of the hold. In this way, they can ensure much more complete filling than possible with some other clamshell grabs.