

Job Report

A 974 B High Rise Litronic®

The A 974 B Litronic "High Rise", utilized as a universal, mobile Material Handler in the port of Køge/Denmark.



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Situation

The port of Køge, approx. 30 km southwest of Copenhagen direct on the coastline, handles primarily scrap, fertilizer, wood products and melting salt.



Assignment Report

The material volume grows continuously and the port facilities are expanded with considerable financial expense over a period of several years. A contract with a power plant in Copenhagen for the annual supply of 200.000 t to 300.000 t of wood chips as fuel was signed. Wooden waste arrives from Germany, Poland and Russia per ship. To unload this cargo as well as other bulk goods, a material-handling machine that features multiple-purpose usage and quick mobility was needed.

The Port Authority Køge administered a public tender for such a material handler. Particular criteria were the technical specifications, performance capability, service and, of course, the price. After a intensive analysis and careful comparison of all submitted quotations, the decision was made in favor of the Liebherr material handler A 974 B Litronic "High Rise".



Solution

The machine was commissioned to the Port Authority by the end of 2003. The Liebherr A 974 B Litronic is the largest and most powerful wheeled material handler in the world and especially designed for industrial cargo handling. The operating weight is 122 t. The machine is powered by a heavy-duty, turbo-charged and aftercooled Liebherr V-8 diesel engine rated at 317 kW/431 HP. The max. lift capacity is 32,3 t. Due to the large support area of 9,4 m x 6,4 m, with the outriggers on the ground, the material handler provides a safe stability which allows a maximum height of 17,5 m and a maximum reach of 22,0 m.

The A 974 B Litronic is equipped with a specialized attachment for cargo handling in port. The slightly angled gooseneck boom facilitates reaching over the ship's sideboard. The upper, including the attachment, sits 1,2 m higher due to an intermediate swing ring tower and is capable to unload larger vessels as well. Not only the elevated upper but also the hydraulically, infinitely elevated operator's cab to an eye level of 9,2 meters and a forward reach of 8 meters provide the operator with an excellent visibility of the entire working area and particularly to the hatches at all times. The A 974 B Litronic can be re-positioned easily and quickly. The travel speed is up to 10 km/h; the turning circle is only 21,0 m. The eight solid tires provide not only a low ground pressure but also avoid damage to the wharves.

Performance

On January 28th the German freighter "Volmeberg" arrived from Tunis at the port of Køge with 6.800 t of melting salt. To unload this bulk material, the A 974 B Litronic was fitted with 4,0 m³ capacity clamshell. Despite adverse weather- and partially blizzard conditions, the ship was unloaded on time in 15 hours. The hourly performance was 450 t/h on average.

The operators made positive statements about the cabin's comfort, the ease to operate the machine and the quick working speed. Very interesting was the captain's of the "Volmeberg" statement as well. He described the A 974 B Litronic as a very "gentle" material handler. The captain has had very bad experiences in

Technical Data

A 974 B Litronic "High Rise"

Operating weight _____ 122 t
Engine _____ Liebherr Diesel D 9408 TI-E
Engine rating accord. ISO 9249 ___ 317 kW/431 HP at 1800 RPM
Swing ring tower extension _____ 1,2 m



other ports with cable operated port cranes, which cannot be operated too precisely. Either caused by sudden movements or by strong wind gusts, the clamshell or other lifting gear does swing back and forth on the cables. This causes often damage to the railing or hatch covers. Damage also occurs when the hoist is lowered too fast or dropped from considerable height to the ships bottom. The accurate operation of the hydraulically actuated material handler does avoid all of those damages.

In the meantime, a larger number of Liebherr material handler in this size as crawler- as well as wheeled versions are working in Scandinavian ports. Not only in Køge and Odense in Denmark but in Varberg and Kalmar in Sweden.

Attachment

Industrial gooseneck boom _____ 14,0 m
Industrial stick _____ 9,0 m
Clamshell _____ 4,0 m³