

Duty Cycle Crawler Cranes

HS 885 HD and HS 8130 HD

Job Report

"I've operated many construction machines. But if I could choose between them, then preferably Liebherr. The precision and reliability say it all."

Paul Lam
machine operator, Vibro (H.K.) Ltd.



LIEBHERR



Situation

On seeing Hong Kong's skyline, the residential concept is clear - reach for the sky. Much less obvious is the underground deep foundation work behind it. However, it is no less spectacular, proven by Vibro (H.K.) Ltd's current project in Kowloon, which along with Hong Kong Island and New Territories, is part of the seven million metropolis off the southern coast of China. Vibro, founded in 1929, is the

oldest foundation contractor in Hong Kong and specializes in foundation systems in difficult ground conditions. A housing complex is now being erected on a site where an industrial building once stood. The deep foundation work will last for six months and is scheduled to be completed by the end of 2017.

Challenge

One glance at the jobsite is enough to recognize the specific challenge presented by this project. The difficulty lies in the restricted space. The jobsite is located in the middle of a residential area of Kowloon and borders directly on existing buildings. In order to keep the noise level for the residents as low as possible, work may only be carried out between 07.00 and 19.00 hrs, six days a week. Liebherr offers optional assistance systems especially for such applications. Using

the Eco-Silent Mode, the engine speed can be reduced to a predefined level. Therefore, both a significant reduction in diesel consumption and lower noise emission can be achieved without any impact on operation output. Additionally, the Automatic Engine Stop Control from Liebherr offers an economic and environmentally friendly solution for such requirements. After checking certain system functions the engine is switched off during longer work interruptions.

Solution

A total of 14 piles must be installed. These will serve as the foundation for the building. Vibro is using two HS 885 HD and one HS 8130 HD for this job. Each machine is equipped with a mechanical grab and an oscillator. In order to achieve the necessary depth of 50 m, Vibro requires ten working days for each pile. The reason for the long production time lies in

the difficult ground conditions. First of all groundwater emerged, followed by rock with a very high strength of 150 MPa. In order to penetrate this hard layer, the RCD method is being used. With a diameter of 3 m, up to 300 m³ of concrete is required for the completion of each pile. In other words, about 40 truck mixers full.

Technical data: HS 8130 HD (successor to the HS 885 HD)

Engine power:	505 kW / 677 hp
Max. capacity:	130 t
Max. line pull:	2 × 350 kN

Max. boom length:	53 m
Operating weight:	116 t