

# KLEMM drilling rigs in Scandinavia

An insight into how rental drill rigs from the KLEMM Bohrtechnik range are being used in Scandinavian infrastructure projects

In Scandinavia KLEMM has been cooperating successfully with its partner GEOMEK, in Stockholm, for more than 25 years. "In GEOMEK we found a reliable and experienced partner who offers system solutions, products and services within geotechnical investigations and foundation projects," says Harald Weber - regional sales director at KLEMM Bohrtechnik.

"To supply the aftermarket, GEOMEK has a fully equipped service organisation including both, a workshop and field service. With their long-time experience and know-how in the field, they offer the products and system solutions that best meet the customers' needs and requirements.

"At present more than 85 KLEMM drilling rigs are being used all over Scandinavia," says Weber. "There are more and more customers who appreciate the flexibility to own a machine which is able to drill micro-piles with a useful rod and casing length of 6m for DHD usage and at the same time being able to drill anchors with a hydraulic drifter. Such a rig should be able to get a jet grouting set-up with lattice mast extensions, a drilling data recording system and a rotary head with a mandrel."

Recently, a KLEMM rental rig, supplied by GEOMEK, has been used at a major infrastructure project in Gothenburg, Sweden. On behalf of the Swedish Transport Administration, the Swedish construction company NCC is building a substantial section of the West Link's (Västlänken) double-track rail line.

## THE WEST LINK

The West Link is a new double-track rail tunnel that will improve train travel in Gothenburg and West Sweden. Giving commuter and regional trains their own

tracks in a tunnel beneath central Gothenburg will double capacity at Gothenburg's Central Station.

The Centralen section of the West Link includes a bridge over the E6 motorway to the east, the new underground station Centralen and around 2km of connecting rail tunnel, some of which will run through rock.

In order to hold back a sheet pile wall, MAI anchor bars T76N had to be drilled and installed. For this application, the decision was made to use a KLEMM KR 806-5G drilling rig as it is specially designed for use in the special foundation industry with a focus on tie-back and micro-pile work.

The KR 806-5G is the largest unit within the KR 806-series. It is equipped with a diesel engine rated at 180kW power output and a tandem load sensing main hydraulic pump system and fulfils the latest EU and US standards EEC97/68 EC Stage 5 and USA EPA/CARP TIER 4 final.

The optimised kinematic mast-to boom link offers a large range of slewing and mast positioning possibilities. This increased carrying capability is the basis on which heavy drill masts and drilling systems can be mounted. With a total weight of

approximately 22t the KR 806-5G rig used has been equipped with a drill mast type 203-13 with 130kN retraction force, a total length of 10.1m and a hydraulic drifter KLEMM KD 1215R.

## ENERGY-EFFICIENCY

A new option for almost all KLEMM drilling rigs is the Energy-Efficiency-Package (EEP). It includes a power and energy management system that automatically adjusts the engine speed to the respective load and operating condition. Fuel consumption and noise emissions are reduced considerably. As standard, all functions are controlled via the radio remote control.

The functional safety of the machine controls complies with Performance Level C (ISO 13849), making its design extremely resistant to faults and fail-safe. The optimised kinematic mast-to-boom link offers a large range of slewing and mast positioning possibilities.

Most common KLEMM drilling rigs in Scandinavia are KR 806-5G or KR 805-3G. However, more rigs in different versions for a variety of drilling applications are available to match the customers' requirements and demands. ▼



A KLEMM KR 806-5G drill rig rented from GEOMEK is being used during the construction of the West Link double-track rail line in Sweden