

Specialized foundation engineering with diaphragm wall grab: SENNEBOGEN 6130 HD in Berlin

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Berger Grundbautechnik GmbH is using two SENNEBOGEN duty cycle cranes simultaneously in Berlin. Within the framework of the preparatory works for the planned BAB 100 motorway, a SENNEBOGEN 690 HD and 6130 HD duty cycle crane are digging diaphragm walls at depths of up to 25 m.

Reliability, robust construction, and, above all, high hydraulic capabilities are what is expected of duty cycle cranes by foundation contractor businesses across the world. This is precisely what is required of the machines in use with heavy diaphragm wall grabbers. As a result, it quickly became clear to the Berger Grundbautechnik GmbH, that on a building site in the process of constructing diaphragm walls during the preparatory stages of the BAB100, the ideal requirements for the fulfillment of this task were met by the SENNEBOGEN 6130, in combination with the SENNEBOGEN 690 HD, as a duty cycle crane duo. In the future, the new stretch of motorway will connect the eastern areas of Berlin to the central road circuit and the BAB 113. Large sections of the current section being built run under the earth in a tunnel or in a trough of up to 7 m. Alongside the SENNEBOGEN 690 HD, which has proven itself over years of use in this area, we can now add the new 130 t duty cycle crane 6130 HD, delivered by our current sales and service partner, IBS Industrie und Baumaschinen Service GmbH at the end of 2016.

Configured for diaphragm wall installation: free-fall winches and strong slewing drive

The machine is driven by the powerful 570 kW diesel engine, which ensures sufficient power reserves. For diaphragm wall grabber operations, the duty cycle crane has been fitted with two 300 kN free-fall winches; the free-fall speed with these is easily regulated via a potentiometer. The machine's powerful winch strength and high load capacity allow for a fluid and rapid work process, even with heavy grapples. The diaphragm wall grabber used in Berlin itself weighs around 25 t, and this is in addition to the earth which it digs up and moves. In doing so, the grapple forces its way down into the up to 25 m deep recess, in order to push sand and gravel upwards.

To be precise, the driver first inserts the grapple into the recess and then allows this to fall repeatedly against the ground with the shovel open. The material is thereby loosened and can then be dug up from below

ground. The smooth sand-gravel wash is then deposited directly beside the machine. The result is an exact, straight diaphragm wall construction which, with the addition of reinforced concrete, later becomes the foundation for building. The driver only requires a couple of minutes for one cycle, from sinking the grapple, to breaking up the sand layers, to unloading the material.

For Berger's management, it is clear that: "In the SENNEBOGEN 6130 HD, we have found the perfect machine for demanding specialist foundation engineering. The high hydraulic system drive power is completed with good structural stability."

Despite the high dynamic requirements, the duty cycle crane remains stable and secure thanks to its particularly well-balanced machine conception with the 7.2 m long track rollers. The caterpillar undercarriage telescopes out hydraulically to a track width of up to 4.1 m. In the current configuration, the machine works with a heavy duty boom running to a total of 27 m in length.

Source: SENNEBOGEN Maschinenfabrik GmbH

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Sennebogen 6130 HD On LECTURA Specs