Casestudy





Bi-Turbo compressors from CompAir with EU Emissions Standard 4 prove themselves in heavy-duty use

Excavation during new construction at the Klinikum Schwäbisch Hall

The Diakonie-Klinikum Schwäbisch Hall GmbH is currently constructing a new hospital building. The existing high-rise building from 1937 will be replaced by a modern hospital building on the Diak site. In order to get more space for the new building, a slope has to be removed. Around 600 pegs with insertion lengths of 7–9 metres and ground anchors with insertion lengths of up to 30 metres will secure and stabilise the newly created steep slope.

The construction work is being done by Max Bögl. The compressed air for the operation of the drill boom is provided by a Compair C240 TS-14 compressor. Compressed air is required among other things to blow out the bore holes.

User

Firmengruppe Max Bögl www.max-boegl.de

Project

Installation of 600 pegs and earth anchors for slope stabilization excavation for a new clinical centre for the Diakonie-Klinikum Schwäbisch Hall

Machines used

The CompAir C 240 TS-14 has 14 bar working pressure and already meets the rigorous requirements of EU Emissions Standard 4.

The new TurboScrew from CompAir has 14 bar working pressure and already meets the rigorous demands of the EU 4 Emissions Standard. The electronically controlled Cummins engine in the compressor is fitted with the HJS SCRT[®], which fulfils the strict emissions standards of the EU / EFTA countries, the United States, Canada and Japan. The SCRT includes an oxidising catalytic converter and a diesel particulate filter made of sintered metal, as well as the SCR-module. However, engine maintenance will remain as before: there will be no increased requirements for engine oil and diesel. Moreover, the system can be modified with minimum effort in its 2nd lifecycle so that it can be used in nonemission-controlled countries via a downgrade. Turbo screw-compressors use a patented bi-turbo technology.

Here a second exhaust gas-driven turbocharger pre-compresses the compressor intake air before it reaches the compression chamber. This allows the CompAir com-

Compressed air is used, among other things, for blowing out the bore holes.



pressor to use 5% of the exhaust gas heat, which goes to waste on conventional machines, and convert this into power for the production of compressed air. The TurboScrew compressors are designed so that the idle speed is regulated to only 1,000 rpm. This reduces fuel consumption by up to 30% if no compressed air is needed. So the machines are also particularly economical in terms of fuel consumption when used in alternating load operation. Studies have shown that the fuel costs in the life cycle of a compressor of this class can amount to up to three-quarters of the total cost, including investment costs. Any reduction of consumption is reflected in the operating costs of a compressor.

Another advantage is the low operating weight at less than 3,500 kg. The compressors can be towed by a standard SUV of the appropriate towing capacity. Compressed air brakes are therefore not required. As the compressors are lighter than comparable models, the towing



The new bi-turbo machine at Max Bögl has 14 bar operating pressure and already meets the rigorous requirements of the EU 4 Emissions Standard.

vehicle also requires less fuel. Thanks to the machine's compact size it also simplifies transport to hard-to-reach locations. The wide-opening gullwing doors offer free access to all components and easier maintenance. Completion of the work for the slope in Schwäbisch Hall is set for spring 2014. The construction of the new hospital will take place in several build phases, with current facilities being used. Completion is planned for 2020. The construction investment is around 227 million Euros.



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