

## DRILLING

Pekka Kesseli, vice president, surface drilling, said, "At Sandvik, we aim at continuously improving the energy-efficiency in our rigs, and low fuel consumption can be considered a distinguishing feature of the entire product line."

"The new Ranger DX800 is no exception to this rule. The new rig will significantly reduce our customers' operating costs due to its low fuel consumption rates that are achieved with a new advanced eco-package and engine RPM adjustment."

He added that another enhancement was improved tramping force, which has increased by over 10%.

The Ranger DX800 is equipped with a low-consumption and low emission 168kW Tier 4 Final CAT 7.1 engine. Using DPF technology with a common rail-type fuel injection system, it is said to be able to produce high torque with lower rpm level. In the Ranger DX800, the standard level of 1,800 has been dropped to 1,600rpm, resulting in significantly reduced fuel consumption. Sandvik said that on average, this translated into 5.5 litres less fuel consumed per active hour.

### TOUGH GROUND

While fuel consumption has been significantly reduced, the new Ranger drill rig still claims to provide the necessary power for drilling tasks – even in tough ground conditions. Coming with the rock drill HL810T as a standard, it can also be upgraded by changing it to a high frequency HF810T drill.

Ilkka Lahdelma, product line manager for surface drills, said, "The newer HF810T has successfully been on the market for three years in Scandinavia. It offers around 10% higher penetration rates and better hole quality than its predecessor."

Finnish company Doofor has launched a new version of its Doofor DF550L rock drill.

The DF550L-EXT is equipped with an extractor or back hammer, said to enable the



The Doofor DF550L-EXT at work for Sachtleben Bergbau

easy breakage of the drill strings and helps to extract drill steels from fissured rock.

The DF550L-EXT is a 17kW hydraulic rock drill designed for drifting and tunnelling as well as general excavations, and it has a low overhead profile for effective tunnelling.

The German company Sachtleben Bergbau is mining barite and fluorite in its mine in Oberwolfach in Baden-Württemberg. Bernd Müller of Sachtleben Bergbau said that the rock drill had been very helpful in the demanding mountain rock conditions.

"The problem of drill steels stuck in the rock has disappeared completely. We are drilling a variety of hole sizes with the DF550L-EXT and the drill hole diameters range from 52mm to 102mm."

Sachtleben Bergbau mines 160,000 tonnes of ore each year.

In addition, Doofor has the new DF540L hydraulic rock drill in the 14kW class designed for drilling 55mm wide drill holes in hard rock using R28, T38 or R38 drill steels.

The DF540L can also be equipped with female shank adapters. Its small length and powerful, robust rotation gear also allows it to be used for roof bolting.



The ROK 250 is a new 50.8mm class DTH hammer from Rockmore International

The drifter is completely horizontally symmetrical, so it can be installed in a variety of positions. The Doofor DF540L is said to have a simple design for easy maintenance and a hermetic, rigid body.

Doofor said the DF540L offered a good penetration speed with a modest hydraulic oil flow. Worksite tests show a typical penetration rate of 2m/min in granite with a drill hole diameter of 51mm when using a relatively low percussion pressure of 110 bar.

Boart Longyear has introduced the new S250-M3 rock drill. The S250-M3's advanced noise suppression and lower vibration is said to represent a significant improvement over the existing S250 rock drill.

The main airflow cylinder and the exhaust of the S250-M3 have been engineered to allow for efficient actuation of the drill. The new design is described as driving more of the drill's energy to the face of the rock, which reduces vibration and the amount of energy the driller's body has to absorb.

John Nielson, global product manager, said, "A drill operator stated that it was the first time he could feel his hands and feet after using a rock drill for a full shift. The S250-M3 reduces the noise level by 6dB, which results in half the noise."

The components of the S250-M3 also experience less wear as a result of the decreased vibration, which allows the drill to operate longer without repair and reduces rebuild costs, said Boart Longyear.

The S250-M3 comes in three primary variations — jackleg, stoper and sinker. The drill hex chuck ends are available in both 22mm and 25mm.

Rockmore International, a global



Boart Longyear's new S250-M3 rock drill claims advanced noise suppression and lower vibration





manufacturer of rock drilling tools for DTH (down the hole) and top-hammer drill rigs, has introduced the ROK 250 – a new 50.8mm class DTH hammer.

The new addition is described as a breakthrough for DTH drilling technology, as the ROK 250 model is considered to be the first DTH hammer in its class to have been developed to operate under high air pressure levels up to 24 bar and beyond. With a 66mm wear sleeve diameter, the ROK 250 is designed to drill 76mm to 89mm diameter holes at high penetration rates.

Pejman Eghdami, executive vice president, said, "We recognised a niche market segment in the DTH drilling sector that could use higher air pressure input levels to improve hammer penetration rates and drilling performance for hole requirements as small as 76mm."

He added that traditional 50.8mm DTH hammers suited to drilling 76mm holes were not designed to withstand higher operating

**The Dando 1000 MK2 is a compact flexible cable percussion rig**



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air pressures and were often limited to 10 bar. The low energy values at such pressure levels result in poor hammer performance and low penetration rates, thus increasing overall drilling costs and adversely affecting hole diameter selection, according to the company.

It said the ROK 250 exhibited excellent drilling performance in DTH applications for smaller diameter blast holes and construction projects that demanded high drilling efficiencies and faster drilling rates by using larger compressors rated up to 24 bar and beyond.

### OPTIMISED AIRFLOW

The new ROK 250 incorporates the patented Rockmore SonicFlow technology, which is said to optimise airflow in the hammer. This is achieved by simplifying and streamlining the air paths to minimise detrimental back flow and turbulence, resulting in maximum energy to the piston.

This optimised energy level is transferred to the bit and rock formation to promote ultra high performance hammer characteristics, it said.

Last year, UK manufacturer and designer of drilling rigs Dando Drilling International launched the Dando 1000 shell and auger drilling rig for the geotechnical sector.

The Dando 1000 MK2 is described by the company as a compact flexible cable percussion rig capable of operating in tight and hard-to-reach areas.

The adjustable height of the mast derrick allows the rig to adapt to the job in hand, and its collapsible design allows the rig to be positioned easily into working areas with low head room. With 6.7kW at 1,800rpm, it is capable of drilling to depths of 46m using 101.6mm casing and tooling. It can also drill to shallower depths using larger diameter casing and tools.

Ditch Witch claims that with 267kN of thrust and pullback and 12,200Nm of rotational torque, its JT60 All Terrain horizontal directional drill gives operators the flexibility of a smaller footprint drill without losing power.

The machine's patented two-pipe drilling system claims to give more power to the bit than any other rock-drilling system in its class.

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