

bauma 2007 - The latest techniques for vertical and horizontal drilling

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Reaching the grand old age of 100 is generally a very good reason to celebrate – but not if you're talking about the sewage networks in the western industrialised nations. In Germany alone around 18% of the 485,000 kilometres of public network of sewage pipes are damaged. In the private sector the damaged quotient is put at 20% of a total of 1.3 million kilometres. Technology is not the problem here, because for a long time now modern methods and solutions have been available for lasting repair of any damage. In fact in recent years civil engineering work has been moving further and further away from conventional methods, particularly in pipe-laying and canal work, as well as in special areas such as well drilling, drinking water supplies and geothermics. Modern machinery in combination with electronic communication and monitoring techniques is now greatly facilitating working operations. The 28th bauma, which takes place from 23 to 29 April 2007 in Munich, will be offering a full overview of the current market in this field.

Modern drilling techniques are essential for a number of civil engineering operations. In geothermal drilling operations, for example, equipment mounted on tracked vehicles or moving gear can now reach depths of 350 to 400 metres. This is almost matched by the double-rotor technique whereby borehole ducts can be sunk down to depth of around 300 metres. The latest systems also enable a double drill string to be carried down. The drill rods and the protective casings are drilled using this technique, simultaneously drilling in one direction.

Manufacturers focus on solutions for renovation of existing heating systems

At bauma trade visitors will, for example, be able to take a look at a new small drilling system for tapping into geothermal energy. This operates on a diagonal boring procedure, in which the borehole ducts are drilled in a radiating format, in all directions and at all angles.

Small drilling systems are generally very popular at the moment. Many manufacturers are providing solutions for upgrading existing heating systems, a particularly promising area in view of ever rising energy costs. Here it's necessary to employ drilling machinery on plots that are already built upon, a job suitable only for small, lightweight systems which are very flexible. Many of the very latest small drilling systems weigh in at less than 2,000 kg, and can drill depths at up to around 75 metres using an in-hole hammer or jetting drill.

Rapid drilling progress and precision operations are key selection criteria

Important criteria in the decision on which drilling system to buy are drill performance, cost savings and operating safety. In the view of some manufacturers the focus here is less on modern electronics and more on precise functional processes which result in cost savings. With these special machines key criteria are functional drill rod insertion systems and rod carriers that are as large as possible. The visitors to the 28th bauma can expect to see a broad range of machinery and accessories from all the leading manufacturers in this field.

Powerful arguments in favour of modern HDD technology

Process-controlled horizontal directional drilling (HDD), i.e. for drilling horizontally rather than vertically, is used primarily in trenchless pipe-laying, in laying culverts and in environmental engineering projects, as well as in renewing and replacing pipes. Small, versatile directional drilling systems can be used to lay steel or plastic pipes and supply cables in a fast, environmentally friendly operation. Other advantages of this technique according to the manufacturers are the avoidance of traffic disruption, the ability to drill underneath buildings without any disturbance above ground, the costs thereby saved on building security and also the lower site costs. Modern horizontal drilling systems, such as will be on show at bauma in Munich, are usable in all ground conditions and most such systems benefit from simple, menu-guided controls.

New process technologies announced for bauma

Micro-tunnelling is a very versatile technology. The decision about which machine and which accessories to purchase for trenchless pipe-laying depends on several factors. Soil conditions, the diameter of the pipes to be laid and the length and required precision of the borehole are key parameters. In recent years the manufacturers have not only optimised machine

function, but also the control and information technology. For example a theodolite with electronic CCD camera and monitor is now being used for on-going monitoring of the direction and angle of the drilling operations. Its even possible to display a 1:1 image of the diode target plate on the screen, over a distance of up to 150 metres. The manufacturers in this specialist area have announced that they will be showcasing the latest process technologies and modern communication and measurement techniques at bauma.

Further information: www.bauma.de

bauma

The world's biggest international trade fair for machinery for the building and construction, building-materials and mining industries takes place at the New Munich Trade Fair Centre from 23 to 29 April 2007. This event, organised by Messe München GmbH, will take up over 540,000 m² of indoor and outdoor exhibition space. The last bauma in 2004 attracted 2,801 exhibitors from 47 countries, all making full use of the fair as a platform for communication, product presentation and marketing. 50% of the exhibitors were from countries outside Germany. 416,000 trade visitors came to bauma in Munich in 2004, 29% of them from abroad. The number of exhibitors and the number of global brands among them is evidence of bauma's central significance as an international forum for the sector. 93% of the exhibitors at bauma 2004 reported contacts with international trade visitors at their stand.

Messe München International (MMI) is one of the world's leading trade-fair organisations. It organises around 40 trade fairs for capital and consumer goods, and new technology. Over 30,000 exhibitors from more than 100 countries, and over two million visitors from more than 200 countries take part each year in the trade fairs in Munich. In addition, MMI organises trade fairs in Asia, Russia, the Middle East and in South America. With four subsidiaries in Europe and Asia and 66 foreign representatives covering 89 countries, MMI has a truly global network.

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