



Press Release

HERRENKNECHT Pipe Express[®]: fast installation through groundwater near Stockholm

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Stockholm / Schwanau

Herrenknecht's newly developed semi-trenchless method for pipeline installation has completed its third successful mission. South of Stockholm, using Pipe Express[®] Züblin Scandinavia AB installed a water pipeline more than a kilometer in length within twelve days. Groundwater lowering was not required despite a water level just below the terrain's surface. Compared to conventional open-cut construction the method has significantly less impact on the environment, while simultaneously minimizing costs.

_____ The benefits were obvious to Mats Ohlsson, project manager of client Stockholm Vatten: "For open-cut construction we would have needed sheet piles and we would have had to lower the groundwater." The Pipe Express[®] method from Herrenknecht, however, requires no lowering of the groundwater. The construction company made the most of this enormous budget and time advantage. It used Pipe Express[®] for the laying of a 1,036 meter long section of a 48-inch water pipeline near Huddinge, some 10 kilometers south of Stockholm. After drilling started on February 22, on March 5, 2015 already the destination had been reached. In the most productive 12-hour shift, 221 meters of pipeline disappeared into the ground; the average construction performance was 0.70 meters per minute. About 60 percent of the construction time was taken up just with welding and coating the up to 224 meter long steel pipe strings.

Michael Lubberger, Senior Product Manager Pipeline at Herrenknecht, is proud of the success in Sweden: "After the pilot project in the Netherlands and the subsequent deployment in Thailand, this is already our third drive with Pipe Express[®]. We see strong potential for the new method on the pipeline market." The keen interest of international specialists on the site confirms this view.

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Pipe Express® from Herrenknecht is a new, semi-trenchless near-surface pipeline installation method. In this method, a buggy with a trenching unit creates a narrow, approximately 40 centimeter wide trench on the surface. Below it in the soil a boring machine is mounted that digs the actual tunnel with diameters of up to 1.50 meters and lays the pipeline at the same time. The excavated soil is brought to the surface by the trenching unit and backfilled in the trench again behind the machine, laborious finishing work is not required. The pushing force for both excavation unit and pipeline is provided by a Herrenknecht Pipe Thruster located at the starting position.

In contrast to the conventional construction method the corridors, including construction paths, are up to 70 percent narrower. Extensive earthworks, groundwater lowering, the ramming of sheet piles etc. are not necessary. Up to 2,000 meter long pipelines with a diameter of 900 – 1,500 millimeters (36" - 60") can thus be laid quickly and cost-efficiently.

The company Stockholm Vatten produces around 370,000 m³ of drinking water daily for the 1.3 million residents of the Swedish capital. Züblin Scandinavia AB were contracted to add one kilometer of pipeline south of Stockholm to the existing network.

Short video about the project (in German):

<https://www.youtube.com/watch?v=JRCWXRaMshk>

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Pipe Express® Albysjön 48“ water pipeline

MACHINE DATA

Machine type: Pipe Express®

- › Newly developed semi-trenchless method for pipeline installation
- › Pipeline installation in a single step
- › Drive lengths up to 2,000 m
- › Pipeline diameters: 900 – 1,500 mm (36"– 60")
- › Overburden: 500 – 2,500 mm
- › Advance rates up to 1.2 m/min

PROJECT DATA

Project: Albysjön 48“ water pipeline

Application: Water pipeline

Pipeline length: 1,036 m

Pipeline diameter: 48"

Geology: water-saturated clay soil / soft sediment

Client: Stockholm Vatten AB

Contractor: Züblin Scandinavia AB

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Photos Pipe Express® Albysjön 48" water pipeline



Photo 1

In the Pipe Express® method, with a thrust of 500 tonnes the Herrenknecht Pipe Thruster at the starting position pushes forward the excavation unit together with the pipeline. The tunnel boring machine is mounted at the front end of the pipe string to be installed. On site the pipes are welded into 200 meter long strings and prepared for installation.



Photo 2

With Pipe Express®, in comparison with the open-cut method the corridor as well as the corresponding earthworks can be reduced by up to 70 percent. This also increases acceptance by the population, land users and landowners as the use of large equipment is reduced and construction time is shortened. Near Stockholm, 1,036 meters of pipeline were laid in twelve days.



Photo 3

In the semi-trenchless Pipe Express® method the vertical trenching unit connects the TBM working underground with the buggy on the ground surface. While the TBM pulls in pipelines with a diameter of up to 1.5 meters, the trenching unit on the surface digs a trench only about 40 centimeters wide.



Photo 4

With Pipe Express®, up to 2,000 meter long pipelines with a diameter of 900 – 1,500 millimeters (36" - 60") can be laid quickly and cost-efficiently. Extensive earthworks, groundwater lowering, the ramming of sheet piles etc. are not necessary.

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For further information: Please contact us.

Herrenknecht AG

Herrenknecht is the only company worldwide to deliver tunnel boring machines for all geologies and in all diameters – ranging from 0.10 to 19 meters. The product range comprises tailor-made machines for traffic, supply and disposal tunnels as well as innovative solutions for the efficient installation of pipelines underground.

Herrenknecht provides additional equipment and service packages and also manufactures drilling rigs for vertical and inclined shafts as well as deep drilling rigs.

In 2013 the Herrenknecht Group achieved total revenue of 1.051 billion euros. The Herrenknecht Group employs around 5,100 people worldwide, including over 200 trainees (as of December 2014). With 82 domestic and overseas subsidiaries and associated companies working in related fields, Herrenknecht provides comprehensive services close to each project and customer.

› <http://www.herrenknecht.com/> > Innovation > Pipe Express

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