

MONITOR Process

The Automatic Bentonite Lubrication System ABL guarantees a continuous and uniform supply of lubrication for the pipe line, regardless of diameter or pipeline length.

Automatic Bentonite Lubrication System ABL

To reduce the friction in the pipe jacking method between pipe and ground, it is necessary to use a suspension, the so called Bentonite. This suspension solidifies in static conditions and has the function to hold the pipe line, while in moving conditions a gliding function is resulting.

Per lubrication cross sections 3 or 4 injection nozzles will automatically be supplied with Bentonite in specific order and intervals from the system.

Optionally, the ABL system software can control the Bentonite pump to guarantee an effective lubrication procedure.

The determined order, the amount and duration of the lubrication from individual valves in the annular gap can be displayed graphically and numerically, documented and recorded.

The annular gap behind the machine, created by the overcut of the boring machine, will be filled with Bentonite and must be kept up for the duration of the whole advance work to avoid the pressure from the ground to the pipe line. This reduces the advance pressure and enables longer and curved drives. Furthermore it helps for lower stress on the jacking pipes and avoids pipe damages.

Automatic Bentonite Lubrication System ABLS

In difference to the personal- and time-consuming method of manual lubrication, the automatic lubrication of ABLS allows a continuous and secure lubrication of the whole pipeline with the same amount of Bentonite.

Advantages

- Effective and direct lubrication of the whole pipe
- Lubrication sequences in cyclic order or freely programmable
- Short lubrication intervals are possible
- Increase of safety as lubrication is done automatically (specially in pipes with small diameter)
- Selective operation up to 4 separate lubrication cycles
- Ease of work and spare of time
- Avoid of pipe damages
- Enables longer and curved advances

The PC-controlled pneumatic valves open and close automatically. The system keeps records of consumption and pressure values.

The ABLS System can be used integrated with VMT Navigation Systems as well as Stand-Alone-Version. The use of this lubrication control system is profitable already at short drives.

Features

- Field of applications: pipe jacking/microtunnelling
- Acquisition of Bentonite pressure directly behind the TBM by an additional pressure sensor
- Minimizing of advance forces
- User-defined determination of lubrication sequences and cycles
- Lubrication time, rate of flow and max. lubrication pressure can be defined
- Can be integrated in all VMT Navigation Systems

