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Microtunnel Machines

Microtunnelling system is a remotely controlled method for driving concrete, steel and CTP pipes under the surface. This system is primarily applied into areas where main road, railway, subway lines, airport and river passing; and areas where open excavation is risky. In these areas, the potable water, sewage, natural gas, connection tunnels and similar projects can successfully be conducted by the microtunneling machines whose diameter vary between 600 mm – 3000 mm, and which are produced by ourselves.



Microtunnelling System

In microtunneling system, the pipes which form the microtunnel are driven into the tunnel by the pushing force of the hydraulic pistons. The system control is done at the control cabin on the ground. This method has three basic system components:

- Pushing pipes
- Pushing equipment
- Pushing and exit shafts

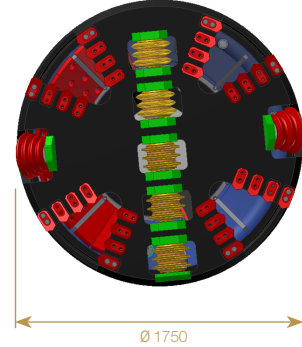
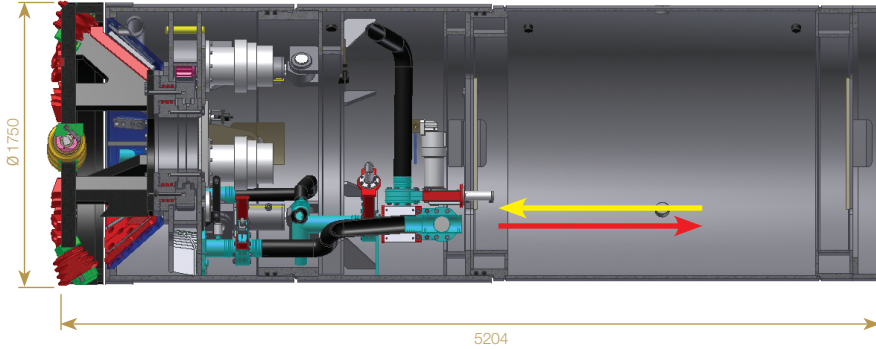
In microtunnels systems which is build by Pipe laying method, the microtunnel machine mines the tunnel, and the impulsion equipment spontaneously push the pipes in the area which is mined. While the cutting head is pushed forward by the hydraulic thrust system, a new pipe is connected once there is enough space to thrust another pipe; and the thrust procedure continues this way.

The microtunnel machine parts the soil by cutting and crushing bits, then the system jets pressurized water, making the material a liquid slurry mud. This liquid mud is absorbed by the discharging pumps which are present in the system; and they are taken into the discharge tank which lays on the surface.

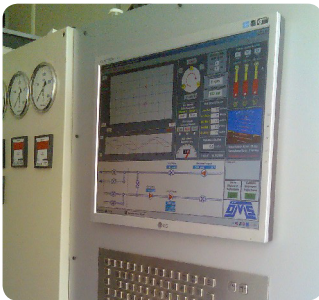
The measurement procedure in microtunneling methods is a continuous data receiving process between the machine and the control panel which exists in the control cabin on surface. The data received are assessed by the operator who runs the control panel, and the operator prevents the machine get out of the foreseen variation boundaries. The data are assessed in the computer in the control cabin, and the horizontal and vertical positions of the machine are viewed quantitatively and graphically on the control panel. In graphical view, the position of the main body of the machine, the position of the cutting head and the adjusted constant position of the machine are shown in different colors on millimetric grids on the monitor. With this control system, the operator can intervene instantly and an accuracy of $\pm 0,01$ is obtained.



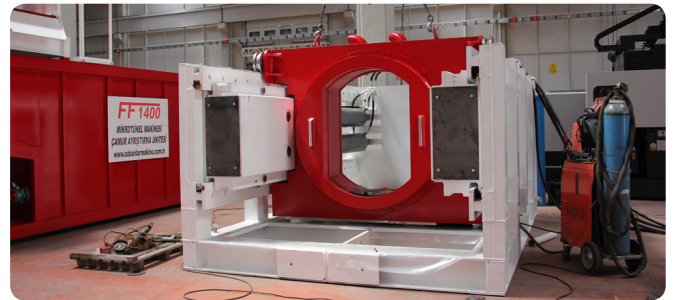
Dimensions



Operator Control Panel



Jacking Station



Flowmeters (Mag Flow Meter)



Seperation Plant





ERSA Engineering Drilling Services

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