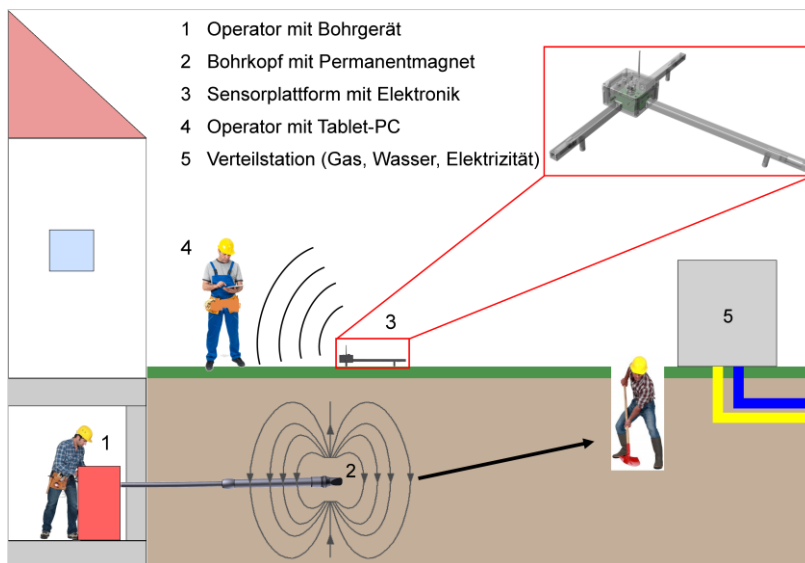


# Magnetic drill head tracking

**On behalf of and in collaboration with Brunswiler AG, MEMS AG has developed a tracking system for the controlled horizontal drilling method.** This process is based on the above-ground measurement of the magnetic field of a permanent magnet integrated into the drill head by means of a sensor platform and serves to determine the position, direction and roll angle of the drill head.

The measured data are transmitted by radio to a robust tablet PC and shown continuously on the display. The controlled dry drilling method is particularly advantageous for domestic connections. The roll angle of the asymmetrically tapered drill bit determines the direction of drilling. The flexible drill rod allows for a minimal drilling radius of 10m. The axial thrust is provided by hammer drill powered with compressed air.



MEMS AG has a prototype magnetic drill head for use in Ditch-Witch-Systems at its premises. Various tests and deployments at customers have taken place successfully with a pilot series of drill head tracking devices. A section of the current sensor platform is shown on the right.

## Facts

**Tight.** The welded aluminum construction is splash-proof and dust-proof.

**Precise.** The drill head position can be determined accurately down to a centimeter.

**Maintenance-free.** The drill head has no batteries and no electronic components.

**Compatible.** Stand alone measurement independently of the drilling system.

**Flexible.** No vertical dependence of the measured values was observed up to a depth of 8 meters.

**Convenient.** Azimuth, pitch angle (pitch), roll angle and speed of the drill head can be displayed on a tablet PC.

