Claims

1. Water abrasive suspension cutting device including a high pressure pump, the device providing a suspension of a fluid and an abrasive agent, and comprising a nozzle head (1) for discharging the suspension which is under pressure and which consists of the fluid and the abrasive agent, with at least one nozzle (8) comprising at least one exit opening (20) for the exit of the suspension,
characterised in that
the nozzle head (1) is designed for movement along a feed axis (S), and at least one of the nozzle (8) being directed along the feed axis (S),
the nozzle head (1) comprises at least one first drive device (17'), by way of which the nozzle head is brought into rotation about a first axis (A1), which first axis (A1) runs parallel and distanced to the feed axis (S) or coincides with the feed axis (S),
the first drive device (17') comprises a motor, which is a suspension driven hydraulic motor.

2. The water abrasive suspension cutting device according to claim 1, characterised in that at least one flow guidance element is arranged upstream of the at least one nozzle (8), said flow guidance element comprising a spiral-shaped flow channel, through which the suspension to be discharged is conveyed and is thereby brought into rotation.

3. The water abrasive suspension cutting device according to claim 1, characterised in that the first axis (A1) coincides with the feed axis (S).

4. The water abrasive suspension cutting device according to claim 1, characterised in that the first axis (A1) is distanced to the feed axis (S).

5. The water abrasive suspension cutting device according to one of the preceding claims, characterised in that the nozzle head (1) comprises a second drive device (17"), by way of which the nozzle head (1) can be additionally rotated about a second axis (A2) which is distanced to the first axis (A1).

6. The water abrasive suspension cutting device according to one of the preceding claims, characterised in that the nozzle head (1) at least in a section comprising the at least one exit opening (20), is inclined to a feed axis by an angle (α).

7. The water abrasive suspension cutting device according to one of the preceding claims, characterised in that the nozzle head (1) comprises a centrally arranged nozzle (8).

8. The water abrasive suspension cutting device according to one of the preceding claims, characterised in that the nozzle head (1) comprises a plurality of exit openings (20), of which at least some are arranged such that jets (22) which are released by them are angled to one another.

9. The water abrasive suspension cutting device according to claim 5, characterised in that the second drive device (17") comprises a motor.

10. The water abrasive suspension cutting device according to claim 9, characterised in that the second drive device (17") comprises a hydraulic motor, such as a turbine.

11. The water abrasive suspension cutting device according to one of the claims 1 to 9, characterised in that at least one channel (5) is provided in the nozzle head (1), via which channel fluid essentially without solid particles can be branched off from the suspension.

12. The water abrasive suspension cutting device according to claim 10 and 11, characterised in that the at least one channel (5) is connected to the hydraulic motor.

13. The water abrasive suspension cutting device according to one of the claims 1 to 12, characterised in that the nozzle head (1) is configured for water-jet cutting or water-jet drilling.