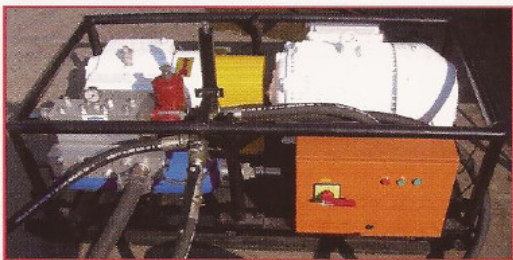
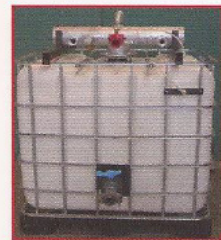


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# MICRO HYDROPOWERED MINING

*SMALLER-SCALE HYDROPOWER SYSTEMS*

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**NOVATEK**

**INNOVATION IN MINING**

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## APPLICATION

Hydropowered mining systems can be very effectively used to power specific working areas and localised areas, such as a complete raiseline. The result is a locally-controlled system that can be operated energy-efficiently, more productively and more cost effectively than pneumatic systems.

### ENERGY EFFICIENCY

- Water drilling systems can be 90% more energy efficient than pneumatic systems, requiring a lower installed capacity and having much lower operating costs.

### PRODUCTIVITY

- Water drills can penetrate more than twice as fast as pneumatic drills and jetting guns allow for much faster cleaning, allowing labour productivity to be greatly improved.

### SAFETY

- Better productivity means fewer personnel in risk areas and for a shorter time.
- Lower noise output, no exhaust mist, no oil discharge means a healthier working environment.

### COST SAVINGS

- Capital costs can be 40% lower than pneumatic systems for the same drilling capacity.
- Productivity and energy savings more than offset higher maintenance costs, to provide overall operational savings.

### COMPONENTS OF A MICRO HYDROPOWER SYSTEM

- **POWERPACKS** – including pumps and their control systems, supply tanks and filters.
- **RETICULATION** – including piping, isolating and safety valves and fuses, manifold and hoses for high pressure water. Hose and piping for low pressure return water.
- **ROCKDRILLS** – for drilling of blastholes and roofbolts.
- **MINING EQUIPMENT** – including water jetting guns, blasthole cleaners, watering-down guns, jet pumps, saws, and other tools.
- **DRILLING RIGS** (optional) – varying from simple beam rigs and portable bolters to tracked and trackless rigs.

### TURNKEY SYSTEMS

- Novatek can specify, supply and commission turnkey installations.
- Training and maintenance services are also provided.

## SPECIFICATIONS

Supply Pressure at Pump	17 MPa nominal
Supply Pressure at Rockdrills	12 MPa (at worst point) to 16 MPa
Service water Supply	Clear water at 500 kPa minimum, 5 to 30° C
Water recirculation option	Can recirculate up to 75% of drill exhaust. Requires supply tank.
Pump control system	Unloading valves, PLC controls or variable speed drive systems.
Reticulation	Pipe and/or hose
Safety Valves	Safety shutdown valves and/or fuses, depending on system.

Note that specifications are subject to change without notice. Products are subject to patent protection.