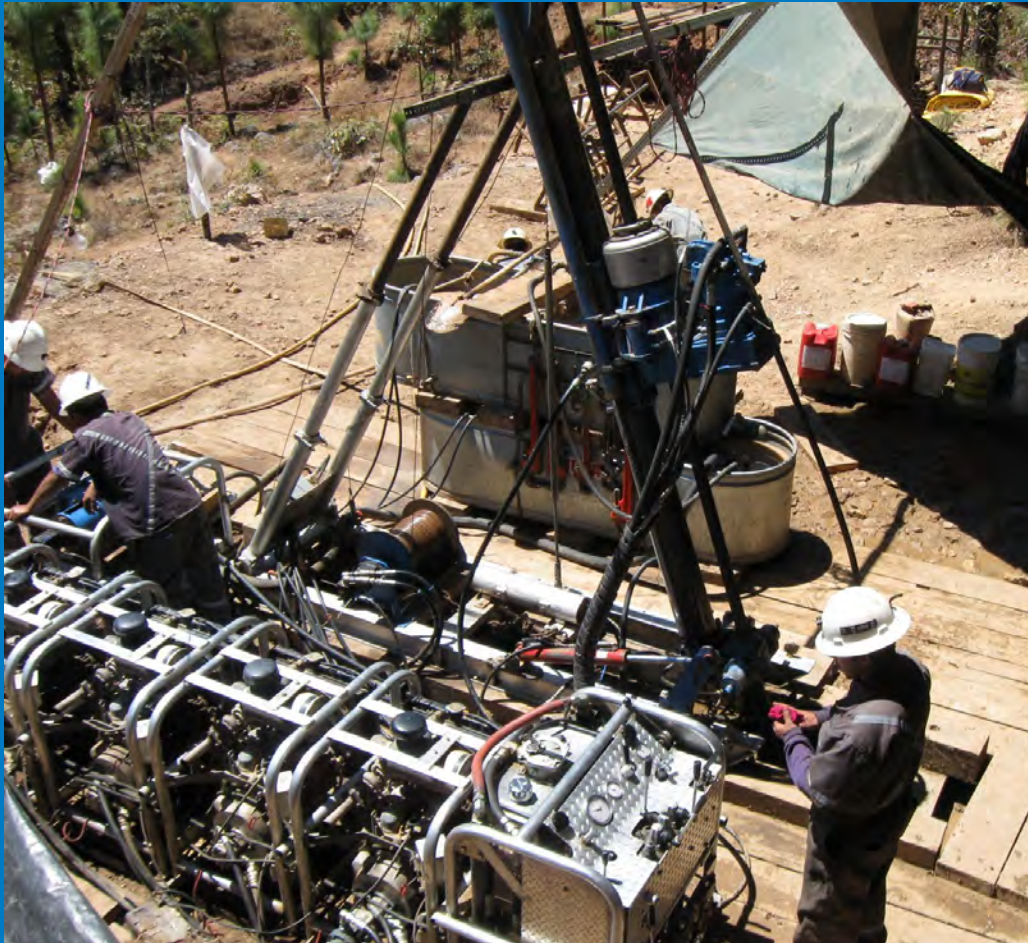




## HYDRACORE 2000 Manportable Drill



The Hydracore 2000 Manportable Drill is the combination of the Hydracore 2000 H size drill head, with the manportable powerpack. The powerpack can be made with three or four engines either 30 or 40 HP each engine. Another option is twin 70 HP engines. While still being designed so that it can be moved by hand this machine has the benefits of an H size hydraulic chuck. Ten foot rods can be used. Rod breaking is done mechanically with the drill head, which increases operator safety. There is no other company in the world that can offer a manportable machine that is based on as long a history of practical experience as Hydracore. Most of the other similar machines on the market are copies of Hydracore's designs. Hydracore has been making manportable machines with multiple engines since 1997.

# HYDRACORE 2000 Manportable Drill

## Drill Head and Hydraulic Chuck

The drill head has a unique hydraulic chuck that has more grip than other chucks. It works on a different mechanical principle than all other chucks on the market. It requires only one set of jaws to drill any size from B to H. The chuck is opened by two side mounted cylinders with durable seals that are easily replaced. The two main bearings are grease lubricated, thus oil leaks and contamination are avoided. A Gates toothed polyurethane belt transmits power from the Rexroth variable displacement bent axis motor. The standard reduction ratio is 2.77: 1. The Gates Poly Chain belt is highly efficient, long lasting, and requires no lubrication. The belt system used on this drill has a rating of 220 HP at the maximum speed. The displacement of the motor can be varied by adjusting a valve on the control panel while drilling to vary the speed from 522 to 1,500 RPMs. At the low speed the maximum torque is 1,254 ft lbs. For rod breaking in reverse low speed and extra high pressure is automatically engaged so that 1,790 ft lbs. are available. The total weight of the head is only 580 lbs. It can be dismantled into smaller components to make moving easier.

## Feed Frame

The Feed Frame is of simple, strong, and compact design. It is hard to imagine any simpler or stronger way of building the feed frame.

## Foot Clamp

The foot clamp will hold B to P size rods with the standard carbide tipped jaws (no jaw change required). Spacers are used to set the clamp for each drilling size. With each set of spacers, two sizes of rods can be held in the clamp. The clamp is held closed by the pressure in a gas charged accumulator. If hydraulic pressure is lost, the rod clamp closes automatically. A gas spring is far more efficient, and durable than a steel spring. Steady bearings in all the common rod sizes are available for installation on the foot clamp.

## Winch

The wireline winch is a very ordinary but rugged design. A level winder is available to keep the cable organized on the drum. This is mainly chosen for deeper holes or for improved safety.

## Hoist

An optional hoist for lifting and lowering the rods into position above the head is available. When drilling H size the weight of each 10 foot rod is about 77 lbs. Having to lift or lower those repeatedly by hand is pretty hard on the drill helpers. With the winch this job is done with mechanical assistance so it lightens the work, reducing the chance of injury and speeding up work.

## Hydraulic Powerpack

The hydraulic system is simple and uses the highest quality components for maximum efficiency and durability. None of the hydraulic components are used at maximum capacity on a continuous basis, insuring long component life. Gear pumps are used on each engine so that the power of all three/four engines can all contribute to the rotation of the drill head. An efficient and easily serviced filtration system keeps the oil clean to minimize wear. Gear pumps are lighter, cheaper, and more rugged and reliable than piston pumps. Valves split some of the flow from each pump to run auxiliary devices such as mixers and pumps. An unusually durable high pressure piston pump provides pressure for the feed and clamping functions, as well as 5,000 psi for rod breaking. We have never seen one of these pumps that is worn out. The control panel is designed so that normal drilling tasks are easily accomplished. A single valve operates the chuck and foot clamp, so that rod pulling is made very easy and safe. Gauges are installed so that drilling torque and bit weight can be estimated. As with other Hydracore drills, the whole control panel is hinge mounted so that it can be opened for easy access to the hose connections.

# HYDRACORE 2000 Manportable Drill 120 HP Specifications

## Capacity

B size	5,700 feet (1,750 m)
N size	4,250 feet (1,300 m)
H size	2,700 feet (825 m)

## Drill Head

H size hydraulic chuck. Belt drive with 2.77:1 ratio.

<i>Motor Displacement</i>	<i>RPM</i>	<i>Torque</i>
Maximum	522	1,254 ft-lbs.
Minimum	1,500	428 ft-lbs.

\*This is a higher speed than most drills can achieve.

*Speed/Torque* is continuously variable between maximum and minimum values. More torque is available in reverse for rod breaking, (1,790 ft-lbs.) because the reverse pressure is set at 5,000 psi and the maximum pressure in forward is only 3,500 psi.

## Hydraulic Chuck (Hydracore Link Chuck)

Operation	Spring closed, Hydraulic opened
Axial Thrust	30,000 lbs.
Capacity	B to H
No. of Jaws	3
Maximum Rod Size	3-1/2 inches

## Foot Clamp

Operation	Accumulator closed, Hydraulic opened
Axial Thrust	25,000 lbs.
Capacity	B to P
No. of Jaws	2
Maximum Rod Size	4-1/2 inches

## Drill Slide and Feed Cylinder

Maximum Pull	24,000 lbs.
Maximum Thrust	16,000 lbs.
Stroke	70 inches
Length	122 inches

## Powerpack

Engines (3 or 4)	30 HP each at 3,000 rpm Kubota 3-cylinder turbo diesel, or 40 HP each at 3,000 rpm Kubota 4-cylinder turbo diesel
Main Pumps (4)	15 GPM at 3,000 psi
Feed Pump	3 GPM at 2,500 psi
Hydraulic Tank	12.5 Gallons (US)
Cooling	Water cooled heat exchanger

## Options

20 GPM 1,000 psi Water Pump Hydraulic (General T81)
45 GPM 1,000 psi Water Pump Hydraulic (Cat 3545)
Wireline Hoist 2,000 foot capacity
Wireline Hoist 3,000 foot capacity
Hydraulic Mud Mixer

## Weights

Drill Head (including Chuck)	580 lbs
Hydraulic Chuck (not including Opening Cylinder & Yoke)	106 lbs.
Foot Clamp	90 lbs.
Drill Feed Frame	550 lbs.
Drill Skid	67 lbs.
Hydraulic Module wet	278 lbs.
Control Panel	230 lbs.
Engine Modules (3) wet	340 lbs each (30 HP) 400 lbs each (40 HP)
Wireline Hoist 2000 feet	150 lbs.
Water Pump 20 Gallons	106 lbs.
Mud Mixer	35 lbs.
Batteries (2)	37 lbs. each
Sheave Assembly	90 lbs.



7702 Progress Way  
Delta, B.C. V4G 1A4 CANADA  
Ph: (604) 940-4937  
Fax: (604) 940-4919  
info@hydracore.com  
www.hydracore.com



Hydracore 2000 Manportable on a hillside in Guatemala, 2011.

