

## CENTER ROCK INC. PRODUCT INNOVATION LEADS TO ENHANCED LP OFFERING

For many years, Center Rock Inc. has been the leader in the manufacture and application of the LP Drill (low-profile, multi-hammer canister drill). From its use in the 2010 Chilean Mine Rescue when 33 miners were rescued through the 26" (660mm) hole drilled by a Center Rock LP, to hard rock drilling applications around the globe, the Center Rock LP has been utilized by some of the world's leading contractors.

LP Drills are comprised of multiple hammers housed in a canister and each hammer has its own button bit. The canister is supplied compressed air, both to cycle the hammers which impact their respective bits, as well as to provide hole cleaning for the pulverized rock cuttings. The canister is rotated with a Kelley bar / drill rod utilizing a side inlet swivel or with a ratchet attachment which does not require a side inlet swivel. The rotation allows for new rock to be engaged by the button bits, thus drilling a hole to a specific diameter from 24" (610mm) to 144" (3658mm).

LP Drills are designed to utilize one of two different drilling methods, conventional or reverse circulation. Conventional LP Drills typically have a calyx basket above the drill to collect the rock cuttings as they travel from the bit face through the annular space between the borehole and the canister and then are deposited into the calyx basket. Alternatively, the RC (Reverse Circulation) LP Drill utilizes collection slots in the canister to draw cuttings away from the bit face and into a dual tube drill string allowing the cuttings to be transported to the surface.

Historically, the LP drill was used for hard rock drilling primarily in the vertical position. Building upon the success of the LP Drill, Center Rock has expanded the LP Product offering to include the Mining LP, the HDD (Horizontal Direction Drill) LP Pull-Reamer, and the Utility LP. These new additions to the LP Drill portfolio ensure that we have a hard rock drilling solution to cover all inclinations from vertical to horizontal.



The Mining LP is really today's version of the LP used for the Chilean Mine Rescue. These tools are specially designed for angled holes, utilizing a stinger with a pilot hole to guide the Mining LP. Special features have been designed into the unit to ensure applicability to the harsh, underground mining environment. Mining LP's are used to create burn holes, utility holes, ventilation, dewatering, and rescue shafts from 20" (508mm) to 120" (3048mm).



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The HDD LP is designed as a pull reamer for horizontal directional drilling no-dig applications. And, as with the Mining LP, there is a pilot hole predrilled to guide the HDD LP Drill. The unit will be mounted on a horizontal boring machine which will advance the drill as well as provide rotational torque. Special design characteristics are incorporated into the HDD LP to ensure applicability to the HDD environment, including but not limited to back reaming cutters. HDD LP□ are used for drilling holes in rock from 12□ (305mm) to 60□ (1524mm) in diameter.

Utility LP Drills are the latest addition to the LP Drill family. These units are designed to be used on digger derrick trucks or other standard mountings for drilling utility pole holes. During design, special consideration was given to the weight and air consumption of the Utility LP to ensure applicability to the available mountings in the market today. These units are significantly lighter than competitive mono-hammer pole drills and they also consume noticeably less air which means higher air pressures held, resulting in enhanced penetration rates. Also noteworthy is the use of multiple, lower cost, smaller bits, compared to the expensive large diameter bits used on mono-hammer pole drills. Offered with side inlet swivel attachment and optional extension rod, the Utility LP is the perfect choice for utility pole hard rock sockets from 18□ (457mm) to 144□ (3658mm).



Center Rock is proud to offer these new LP models to you our customer and we have drilling application specialists standing by ready to help you with your next project. Call Center Rock today and you will discover that we are the right size company to be innovative and very responsive to your specific needs. Let us prove to you that we can design and manufacture a tailored drilling solution in a matter of days, not weeks or months.