

Hammer Drills and Rotary Hammers

The phrase “hammer drill” is quite often used for any drill that can be used on concrete. However, this broader reference can be broken down into a couple of distinct categories. First there are actual hammer drills, and then there are rotary hammers. The traditional hammer drill uses a rapid clutching action to produce the hammering effect on the bit, while rotary hammers use an actual hammer action within the drill for a more powerful blow. A good analogy for the difference between the two is this; drumming your fingers on a table top would be a hammer drill, a rapid succession of light blows. A rotary hammer would be like pounding your fist on a table top, a slower but more powerful series of blows. A standard hammer drill is sufficient for occasionally drilling holes up to about 1” in diameter. For consistent drilling of large diameter holes, in some cases up to 2”, the rotary hammer is the tool for the job. Each rotary hammer will have a rating for its maximum capacity for both solid bits as well as core bits. Always be sure to select a rotary hammer with a capacity equal to or greater than the largest size you intend to drill.

Drive Types

While hammer drills use either a keyed or keyless 3 jaw chuck like any standard drill, rotary hammers use specific slotted drives. The three most common drives are SDS (also called SDS plus), SDS-MAX, and spline. The letters SDS in relation to hammer drills have been known to have several different meanings, however the most common is Slotted Drive System.



SDS+ drills are the smallest of the rotary hammers, and are limited to about a 1-1/8” solid bit diameter capacity. SDS shanks will have a single drive slot on one side with another directly opposite.



SDS-Max is the big brother of the SDS+, and depending on the drill, they can have a solid bit capacity of up to 2”. SDS-Max is characterized by two drive slots on one side, and a single one on the opposing side.



Spline drive, again depending on the drill, is similar to SDS-Max, and it too can have a solid bit capacity of up to 2”. Spline shanks have evenly spaced teeth around the entire circumference like a gear.

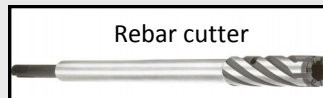


Additional features and Capabilities

All rotary hammer drives also have core bits available for drilling holes larger than the solid bit capacity. Also available are bits like rebar cutters and stop bits for drilling to a specific depth for anchors.



Core bit

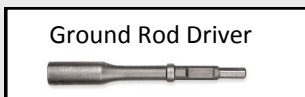


Rebar cutter



Stop bit

Many, but not all, SDS-Max and Spline drive rotary hammers also have a feature called “stop rotation” which allows the drill to be used like a jackhammer, an accessory such as ground rod driver, chisels, scrapers, clay spades, etc.



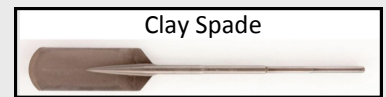
Ground Rod Driver



Chisel



Floor Scraper



Clay Spade

SDS+, SDS-Max, and Spline are industry standards, meaning they are interchangeable from brand to brand, within the same drive. In addition, there are adapters that will allow SDS+ bits to be used in SDS-Max and Spline drive drills. However, tools from the larger SDS-Max and Spline drive hammers can not be adapted for use in the smaller SDS+ drills.



Information sources include Grainger, Milwaukee, Bosch, and DeWalt

If you are still having difficulty choosing a Hammer Drill or Rotary Hammer, please contact us at askzoro@zoro.com or 855-289-9676

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