Remora Electrical

Things to know
Battery Powered Crimping Tools

Technical Breakdown

Battery powered hydraulic tools have basically changed how we handle heavy-duty cable terminations. Instead of cranking a manual lever or hauling a massive hydraulic pump, these units use a compact 18V Li-ion battery to drive a high-pressure hydraulic ram. The internal pump generates massive force, usually around 6 to 12 tons to compress copper or aluminium lugs into a cold-weld state. This isn't just about making the job easier; it's about consistency. A manual crimp depends on the operator's strength at 4 PM on a Friday, whereas a battery tool hits the exact same pressure every single time.

The 10.0 to 300.0mm² tools are the everyday workhorse for most industrial electricians, often coming with a set of hexagonal dies that cover all standard lug sizes. If you're working with larger mains or heavy-duty busbars, you step up to the 10.0 to 400.0mm² models.

These larger units often feature C-type heads that rotate 350 degrees, which is a lifesaver when you're upside down in a cramped trench or inside a tight distribution board. For maximum flexibility, the remote hydraulic pump and head systems allow you to keep the weight of the battery and pump on the floor while you just take the lightweight cutting or crimping head up the ladder.

How to Choose - Selecting the right kit depends on your volume of work and the specific cable sizes on site. For general panel building or standard commercial installs, a standalone 300mm² crimping tool is usually plenty. It's balanced and fast. However, if your project involves a mix smaller sized lugs and heavy armored cable (SWA), the 400mm² multi-tool is the better investment. These 3-in-1 units can often handle crimping, cutting, and even hole punching for gland plates just by swapping the head attachment. If you're doing high-volume utility work where the tool is in your hand all day, look for models with an OLED display. These screens show you the exact crimping force applied and the battery health, so you don't get a half-crimp right before the battery dies.

Best Practices - The most important rule for battery hydraulics is to never "dry fire" the tool without a die or a cable in place, as this can over-extend the ram and damage the internal seals. Always make sure the dies are seated perfectly in the head before you pull the trigger. When crimping, hold the trigger until the tool's bypass valve clicks or the LED indicates a finished cycle. This ensures the correct value of pressure was actually reached.

For maintenance, keep the ram clean. After a day in a dusty trench, wipe the hydraulic piston with a clean cloth before you retract it, otherwise, you're just pulling grit into the high-pressure seals. Also, try to avoid storing the batteries in a freezing cold van overnight, as it kills the discharge rate needed for those high torque crimps.

Q Is it better to buy a dedicated cutter or a combi-tool?

A If you are doing hundreds of cuts a day, a dedicated cutting tool is faster and the blades last longer because they are optimized for that one job. However, for most site techs, a combi-tool that takes interchangeable heads is much more cost-effective. It saves space in the van and gives you the ability to punch holes or crimp large lugs without buying three separate expensive power units.

Q Can I use the same dies for both copper and aluminium lugs?

A No, you can't. While some dies might look similar, aluminium requires a different compression profile and usually a larger die size for the same cross-sectional area of conductor. Using a copper die on an aluminium lug can lead to under-compression, which causes the joint to overheat and eventually fail under load. Always check the stamp on the lug and match it to the die.