

ELECTRO-HYDRAULIC CUTTER

1. The tool is designed to be a hydraulically operated piston activating mechanical joints symmetrically to open or close a set of two opposite blade arms whereby cutting surfaces go on top of each other without making contact thus enabling objects to be cut.
2. Electro-hydraulic cutter must not require connection to an external hydraulic source, generation of the required hydraulic pressure takes place within the body of the device by either a quick exchange lithium-ion battery or an external power supply.
3. The electro-hydraulic tool is equipped with light-emitting diodes attached on the operating side to facilitate work under poor lighting conditions. For simplicity, the lights must be powered by the same Lithium-Ion battery that powers the electro-hydraulic tool and not a secondary battery
4. The cylinder of the tool shall be made of anti-corrosive T6-7075 grade light aluminium alloy for its lightweight, strength and long life. The body of the tool shall have a high impact, non-metallic housing.
5. The maximum cutter opening at the tips will be 7.99 in (202 mm).
6. The cutter must have an advanced blade geometry for pulling metal to the back of the blades, reducing tool rotation and providing maximum cutting performance.
7. The blades shall be made of dropped-forged steel which has a glass-pearl blasted finish and are re-grindable. The blades of the tool should be attached to the piston rod via removable links for ease of repair, efficient power transmission and smooth operation. The pivot points of the blades shall have a rubber booting hand guard for safety purposes.
8. The cutting performance of the tool shall be able to cut up to 1.30 in (33 mm) diameter round stock steel.
9. The tool shall have a dual pilot check valve to prevent accidental movement of the blades in the event of power loss.
10. The control mechanism shall feature a star-grip control actuator for ease of operation by allowing 360 ° operations in any position. The mechanism shall be separate and independent from the handle to provide added control in close-quarter operation.
11. The tool must provide a non-interflow shear seal “dead man” actuator, whereby the unit stops functioning when star grip control valve is released.
12. The tool shall have two handles. One located at the center of the tool and the other located below the control mechanism. The center crossbar handle allows easy ergonomic manipulation from the center or either side without the need of rotating the handle in to position
13. The opening and closing positions are clearly marked.
14. The tool shall be protected by a pressure relief valve that prevents it from being over pressurized.
15. The tool dimensions without the battery shall not be any longer than 33.3 (846 mm), wider than 9.25 in (235 mm) or higher than 9.96in (253 mm).
16. The operating pressure to the tool will be 10,000 psi (70 MPa).
17. The current consumption should be 8.8A DC in idle mode and 43A DC at maximum load.
18. The tool shall be able to tolerate an ambient temperature range of -4°F (-20°C) up to +131°F (+55°C).
19. The tool must be compatible with three battery options; either a 5Amp/25.2 V or a 9Amp/25.2V battery capable of freshwater submersion up to 11ft. Tool must also be compatible with a 9Amp/25.2V battery capable of saltwater submersion up to 11ft .
20. The tool must be NFPA 1936; 2020 Edition compliant and shall be labelled as such bearing the mark of the 3rd party testing agency.
21. Cutting classification should be no less than A7 / B8 / C7 / D8 / E8 / F4 as defined in NFPA 1936; 2020 and certified by a 3rd party testing agency.
22. The tool will not weigh more than 40.6 lbs (18.4 kg) excluding the power supply.
23. The tool shall have a noise pressure level of 67dB(A) at max load.
24. The tool shall be able to operate submerged in fresh water up to 11ft.

25. The tool shall have an IP rating of IP58, and utilize a battery with an IP rating of IP68.
26. Tool dashboard shall illuminate to notify the user of a higher than normal temperature in the main circuit board and shall discontinue the turbo feature while detected.
27. Tool dashboard shall illuminate an icon on the tools dashboard to indicate that the tool has a saltwater capable battery attached.
28. The tool dashboard shall display a pressure indicator that will continually change showing the level of pressure being produced by the tool throughout its operation.
29. The tool dashboard shall display an indicator that illuminates when the turbo feature is active.
30. The tool dashboard shall display an icon that shows the current battery state of charge for real-time awareness. The indicator lights shall consist of green, yellow, and red indication levels relative to the battery level
31. Open and Close icons shall illuminate on the tool dashboard when the trigger control valve is actuated in their respective direction.
32. The illumination of the power ring shall change from blue to red when the tool reaches a specified parameter and the tool detects a greater than 10-degree rotation along its linear axis. This shall alert end user.