

RESCUE RAM

1. The rescue ram is a double-acting hydraulic cylinder. Extension and retraction is carried out hydraulically.
2. The rescue ram is a multi-stage cylinder for applying pressure with varying forces depending on the piston stage. The force remains constant within one piston stage.
3. The electro-hydraulic tool is equipped with light-emitting diodes attached on both ends of the tool 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 ram shall extend to a distance of up to 53.5 in (1359 mm). The retracted length is to be no less than 22.8 in.(579 mm).
5. The ram shall feature a two-stage stroke. The maximum stroke for piston 1 shall be 15.6 in (403 mm) producing a minimum of 28,600 lbf (127 kN) force. The maximum stroke for piston 2 shall be 14.8 in (377 mm) producing a minimum of 13,500 lbf (60 kN) force. The piston stroke overall shall be 30.7 in (780 mm).
6. The tool shall include claw feet made of tool steel on the piston side and on the cylinder side for durable gripping and minimizing slippage. Claw feet shall swivel on both ends.
7. The tool shall have a dual pilot check valve to prevent accidental movement of the piston rod in the event of power loss.
8. The control mechanism shall feature a star-grip control for ease of operation by allowing 360° operation in any position. The mechanism shall be separate and independent from the handle to provide added control in close-quarter operation.
9. The tool must provide a non-interflow shear seal “dead man” actuator, whereby the unit stops functioning when hand pressure is released.
10. The extend piston and retract piston are clearly marked.
11. The tool must be NFPA 1936; 2020 Edition compliant and shall be labelled as such bearing the mark of the 3rd party testing agency.
12. The tool will not weigh more than 41.9 lbs (19 kg) excluding the power supply.
13. The tool dimensions when retracted shall be no longer than 22.8 in. (579 mm), wider than 5.51 in. (140 mm) and higher than 12.9 in. (327 mm).
14. The operating pressure of the tool will be 7,250 psi (50MPa).
15. The current consumption of the tool shall be 7.3A DC in idle mode and 42.7A DC at max load.
16. Electro-hydraulic ram 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.
17. The cylinder of the tool shall be made of anti-corrosive T6-7075 light aluminium alloy for its lightweight, strength and long life.
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 shall have a noise pressure level of no more than 69dB(A) at max load.
21. The tool shall be able to operate submerged in fresh water up to 11ft.
22. The tool shall have an IP rating of IP58 and utilize a battery with an IP rating of IP68.
23. 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.
24. Tool dashboard shall illuminate an icon on the tools dashboard to indicate that the tool has a saltwater capable battery attached.
25. Tool shall have a turbo capable function that is controlled by the user through the star valve controller based on 5 angular segments allowing the user to control the speed and power of the tool through the proportional valving allowing for extremely slow movement of the tool when in critical situations along with the ability to have full power during normal speed and turbo feature when needed. When turbo feature is engaged an icon indicator will illuminate on the tool’s dashboard for user awareness.

26. The tool dashboard shall display an indicator that illuminates when the turbo feature is active.
27. 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.
28. 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
29. Open and Close icons shall illuminate on the tool dashboard when the trigger control valve is actuated in their respective direction.