

DATA SHEET

120mm Compact automatic magazine Main battle tanks



01 Description

The technical breakthrough required for practical, safe and fast automatic loading of a main battle tank cannon is here. Meggitt Defense Systems' patented 120mm Compact Automatic "leap-ahead-technology" Magazine allows thirty-four powered, moveable rounds of ammunition to be instantly and automatically accessible and reside in the same volume in which thirty-four stationary rounds were previously stored.

Using the M1 Abrams turret bustle as a baseline, the 120mm Compact Automatic Magazine maintains the same level of anti-fratricide protection for the rounds, retains the upward-venting, pressure relief blow-off panels for crew and vehicle survivability, and brings the chosen round to the loader as opposed to the loader searching stationary racks for the right type of round. No transfer of ammunition is necessary between reserve and ready magazine segments as all of the rounds in the automatic magazine are ready rounds.

The large and complex sliding blast doors that seal the bustle from the crew compartments are no longer required. Rather, the bustle is isolated from the crew by a solid armor bulkhead, penetrated only by a small blast port less than one tenth the size of the doors. This trade-off reduces the weight of the weapon station by over four hundred pounds while retaining the same number of rounds.

02 Key features and benefits

- Redundant dual electric motor drive system
- Retains ammunition type and location in memory
- Stores both KE and HE type rounds
- Incorporates anti-fratricide provisions

03 Applications

- Main battle tanks

04 Contact

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The virtual memory of the control system retains the inventory of ammunition types and locations as they are loaded into the magazine. When the gunner selects ammunition type with his switch on the turret control yoke, the desired round travels to the blast port where a crewman or a robotic loader can easily, quickly and safely make the transfer from the magazine to the gun.

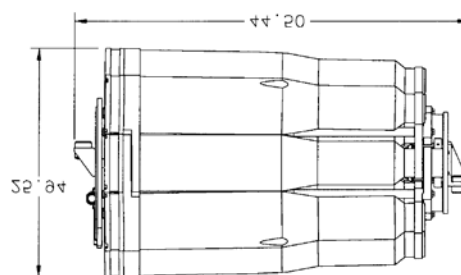
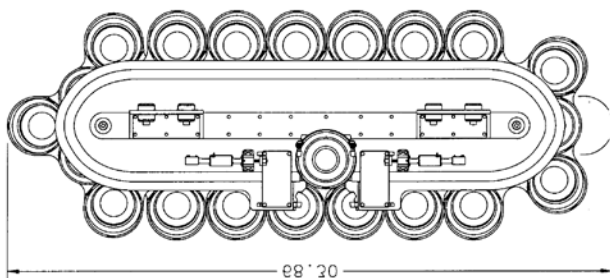
The double row of ammunition canisters is powered by a pair of electric or hydraulic motors housed in the isogrid of the magazine chassis. A firing rate of up to fifteen rounds per minute can be supported by this drive system. In the event of a vehicular power failure or drive system problem, manual back-up for the system is provided through the use of a detachable hand crank that advances the magazine at a reduced rate.

The 120mm Compact Automatic Magazine, designed, developed and built by Meggitt Defense Systems, can be used as a stand-alone improvement to the lethality of main battle tanks. It also forms the foundation of the 120mm Compact Autoloader System.

05 Specifications

120mm ammunition capacity	34 rounds
Access rate	15 spm
Total system weight empty	944 lbs
Volume	37.3 cubic ft

06 Outline details



Note: Due to continuous process improvement, specifications are subject to change without notice. TCO Review # 166