NEXT-GENERATION NAVAL FIREPOWER

THUNDERBOLT 40/70 T



ERMAKSAN
DEFENCE

1965 Founded in 1965 in Türkiye, ERMAKSAN is a global engineering group spanning metal fabrication machinery, additive manufacturing, semiconductor laser systems, and advanced defence technologies.

In defence, ERMAKSAN develops naval gun systems, high-energy laser sources, and mission-critical subsystems designed for integration across multi-domain platforms.

With strong investments in strategic industries, ERMAKSAN works in cooperation with Türkiye's Secretariat of Defence Industries (SSB) to support sovereign, mission-ready capability development aligned with national programme needs.

Quality & Security Standarts

- EYDEP
- MoD Approved Supplier
- MoD Production Authorization
- MoD FSCC
- NATO FSCC
- ISO 9001:2015
- ISO/IEC 27001:2013
- ISO 45001



System Overview

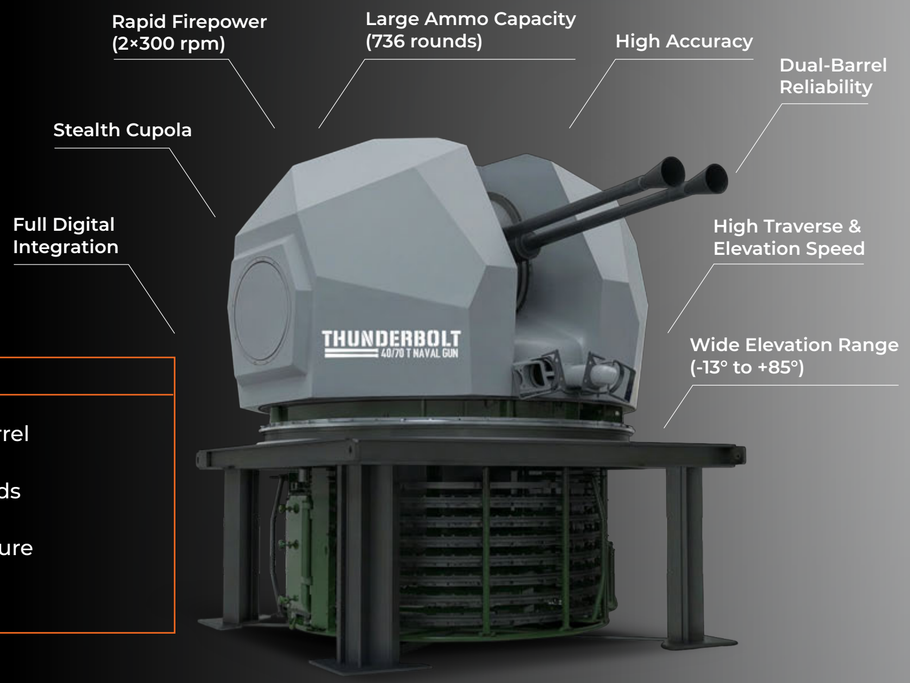
THUNDERBOLT 40/70 T is a next-generation dual-barrel 40 mm naval gun engineered for the ship's inner defence zone and multi-role fire support. Twin barrels provide continuous firepower with inherent redundancy to sustain mission availability under demanding conditions. A stealth-optimised composite cupola supports signature-management objectives, while the fully digital, network-enabled design enables integration with shipborne sensors and combat management architectures—supporting disciplined engagement management across air, surface, and littoral mission sets.

Highlights

- Dual-Barrel Redundancy
- Stealth Cupola
- Digital Backbone
- Sensor Integration
- Multi-Role Missions
- Fleet-Scale Fit



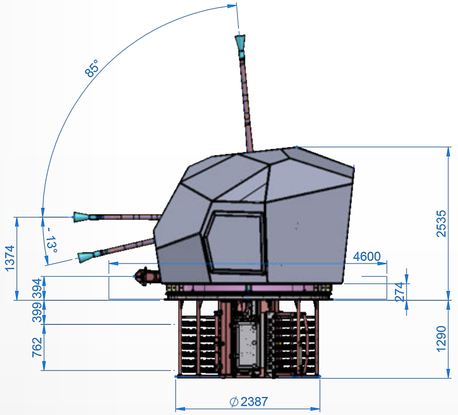
Technical Features

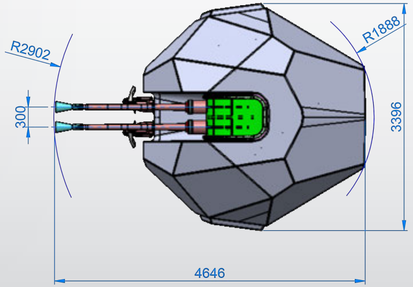


+ Highlights

- 40 mm Dual-Barrel
- 2×300 rpm class
- 736 Ready Rounds
- Stealth Cupola
- Digital Architecture
- Multi-Role Use

TECHNICAL FEATURES	
Parameter	**Value**
Caliber	40 mm
Barrel Length	2,800 mm
Rate of Fire	2 × 300 rounds/minute
Maximum Range	12,500 m
Muzzle Velocity	1,000 m/s
Accuracy	High precision fire
Elevation Limits	-13° to +85°
Traverse Limits	Unlimited
Traverse Speed	90°/s
Elevation Speed	60°/s
Acceleration	120°/s² (120° in 1 second)
System Length (L)	4,650 mm
System Width (C)	3,120 mm
System Height (H)	3,650 mm
Above Deck Height (A)	2,420 mm
Below Deck Height (B)	1,290 mm
Standard Magazine Capacity	672 rounds
Maximum Capacity	736 rounds
Weight (without ammo)	5,450 kg
Weight (with ammo)	7,320 kg
Built-In Test	Automatic self-diagnosis system





Electronics & Software Capabilities

Developed with national resources, THUNDERBOLT 40/70 T's electronics and software architecture is designed to be free from external restrictions and ready for modern combat networks. Its digital backbone—LCU, RCU, PDU, mission computer, sensors, and control software—supports combat-system interoperability and long-term autonomy.

The LCU provides the primary local interface for ammunition handling, servo adjustments, and diagnostics, while delivering real-time system data and logs. The Mission Computer supports system simulation, servo tests, and sensor-data processing—keeping the system integration-ready across platform architectures.
CALLOUTS (≤22 each):

Highlights

- LCU, RCU, PDU
- Mission Computer
- Sensors & Control SW
- Real-Time Data & Logs
- System Diagnostics
- Long-Term Autonomy

Mission Roles & Threat Spectrum

THUNDERBOLT 40/70 T is positioned for multi-role naval employment across Air Defence Warfare (ADW), Surface Warfare (ASuW) and Naval Gunfire Support (NGFS)—delivering consistent effects within the ship's close-defence and support envelope.

Its engagement concept addresses both conventional and asymmetric profiles, from low-altitude unmanned threats (including swarm/loitering) to rotary- and fixed-wing aircraft, fast attack craft/patrol boats, and coastal/land targets, with direct-fire capability against hardened/armoured threats when required.

Highlights

- ADW / ASuW / NGFS
- Asymmetric Defence
- Kamikaze Drones
- Littoral Fire Support
- Multi-Domain Targets
- High-Tempo Engagement



Integration Capability

Operational effectiveness is shaped by how quickly a weapon integrates into the ship's decision and engagement cycle. THUNDERBOLT is designed for interoperability with shipborne radars and EO/IR trackers, and for seamless operation within combat management and fire-control architectures aligned with NATO-standard approaches. This posture turns the gun from a standalone mount into a platform-level capability—supporting faster reaction, disciplined engagement control, and scalable integration across different ship classes and mission profiles.

Highlights

- Radar Interface
- EO/IR Compatible
- NATO-aligned FCS
- CMS Interoperable
- Scalable Integration
- Faster Reaction



Platform Compatibility

THUNDERBOLT 40/70 T is structured for broad platform adoption, supporting both bow and stern installation concepts to match mission layout and deck constraints. Its integration approach targets fleet-level commonality across different ship classes—enabling predictable shipyard integration and consistent combat-system employment across force packages.

A modular, network-enabled design supports rapid adaptation across naval and joint platforms, maximising operational flexibility.

Highlights

- Bow / Stern Options
- Broad Ship-Class Fit
- Fleet Commonality
- Standardised Integration
- Predictable Shipyard Timeline
- Mission Layout Flexibility



Key Advantages

01

DUAL-BARREL RELIABILITY
Built-in redundancy supports continuous fire delivery under demanding conditions.

02

MULTI-DOMAIN ENGAGEMENT
Effective across air, surface, and coastal/ land target sets within the close-defence envelope.

03

STEALTH & COMPACT DESIGN
Composite cupola supports low signature integration and versatile shipboard placement.

04

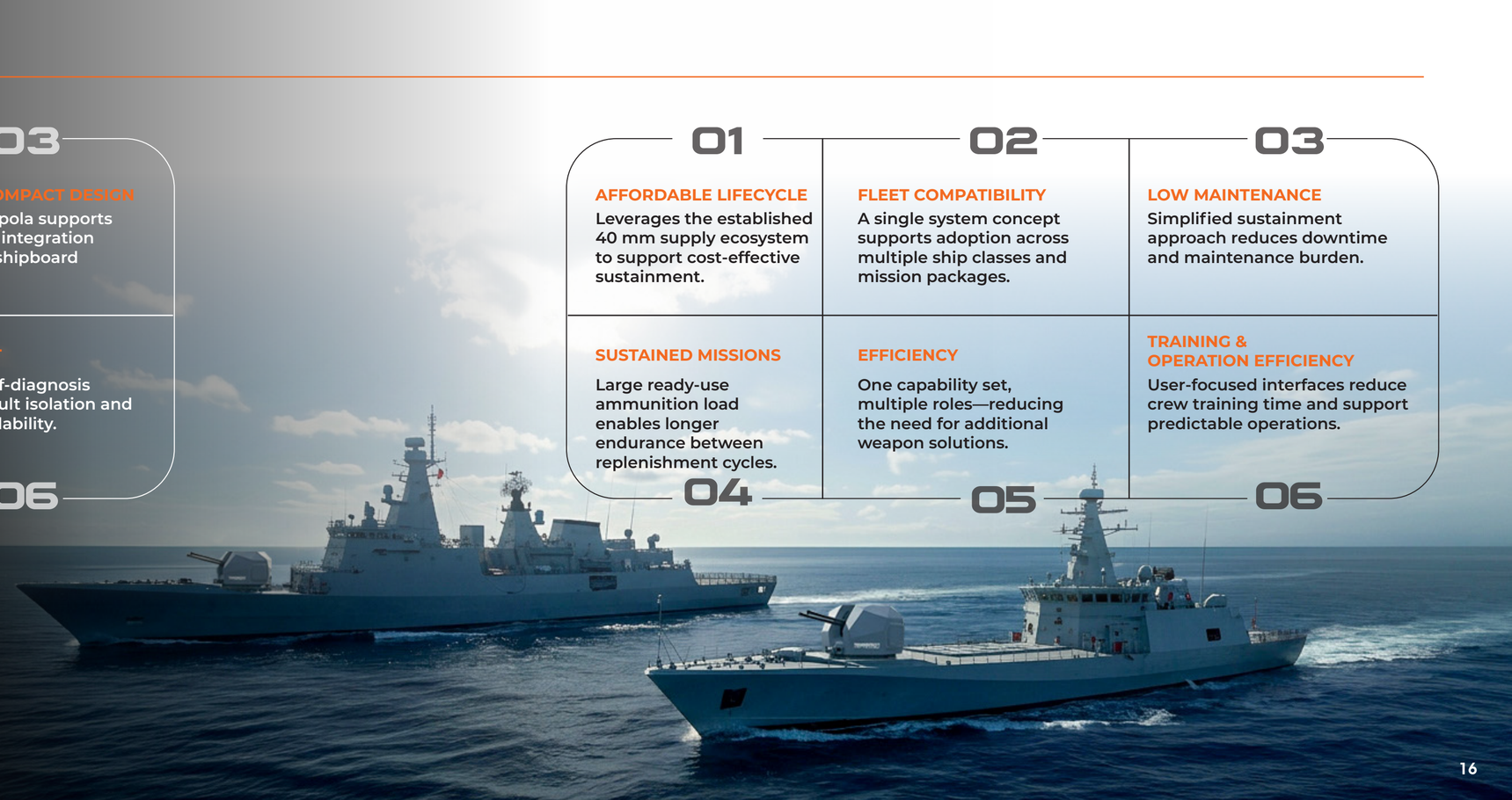
SEAMLESS INTEGRATION & EFFICIENCY
Designed for interoperability with ship sensors and combat/fire-control architectures.

05

HIGH FIREPOWER & ENDURANCE
Up to 736 ready rounds and 600+ rpm class output sustain high-tempo engagements.

06

BUILT-IN TEST
Automatic self-diagnosis accelerates fault isolation and improves availability.



01

AFFORDABLE LIFECYCLE
Leverages the established 40 mm supply ecosystem to support cost-effective sustainment.

02

FLEET COMPATIBILITY
A single system concept supports adoption across multiple ship classes and mission packages.

03

LOW MAINTENANCE
Simplified sustainment approach reduces downtime and maintenance burden.

04

SUSTAINED MISSIONS
Large ready-use ammunition load enables longer endurance between replenishment cycles.

05

EFFICIENCY
One capability set, multiple roles—reducing the need for additional weapon solutions.

06

TRAINING & OPERATION EFFICIENCY
User-focused interfaces reduce crew training time and support predictable operations.

NEXT – GENERATION NAVAL SUPERIORITY

THUNDERBOLT 40/70 T

Lifecycle Support

Operational success is measured across years of deployment cycles. THUNDERBOLT's support concept includes installation documentation, a structured maintenance and training architecture, and bilingual technical documentation. Training is organised in three layers—operator, shipyard, and ship-level maintenance—aligned with naval project standards. Spare-parts planning is tiered for operational continuity, covering ship spares, field spares, and time-phased packages for 90-day and 2-year sustainment cycles—supporting predictable maintenance planning and high availability.

Highlights

- Operator Training
- Shipyard Training
- Ship-Level Support
- Documentation
- 90-Day Spares



First Munition Firing Test in Karapınar, Konya



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