

# Mk 45

## Ammunition Handling System

The Ammunition Handling System (AHS), newly developed for the Mk 45 Mod 4, can manage any 5-inch munitions currently in service.

**Operation** – The fully automated AHS can supply ammunition while the gun is firing for uninterrupted supply of the entire automated magazine. Zero manning is required during mission execution.

**Performance** – The AHS can supply six rounds per minute for the single shuttle system; 10 rounds per minute for the dual shuttle system for the entire automated magazine.

**Modular** – The AHS is readily reconfigurable to fit various platform requirements. Building blocks of stowage modules and ammunition shuttles allow

for flexibility in outfitting ship compartments and the capacity of automated stowage. The entire system can be installed via the magazine elevator, gun barbette, or other ship opening.

**Environmental Performance** – The AHS shock, vibration, and environmental performance is similar to that of the Mk 45 Gun System.

**System Maturity** – The AHS design is complete and utilizes Military-Off-the-Shelf electronics. The system is at Technology Readiness Level 7 with full system tests currently in process (2017).

**Munitions Capability** – Similar to the Mk 45 Mod 4, the AHS can manage any 5-inch munitions currently in service. It is designed to accommodate high-performance propelling charges and future full-length advanced munitions to achieve extended ranges.

**Manning** – The fully automated AHS requires zero manning for gun loading operations. It features integrated/automated interfaces with Mk 45 EP2 and fire control.

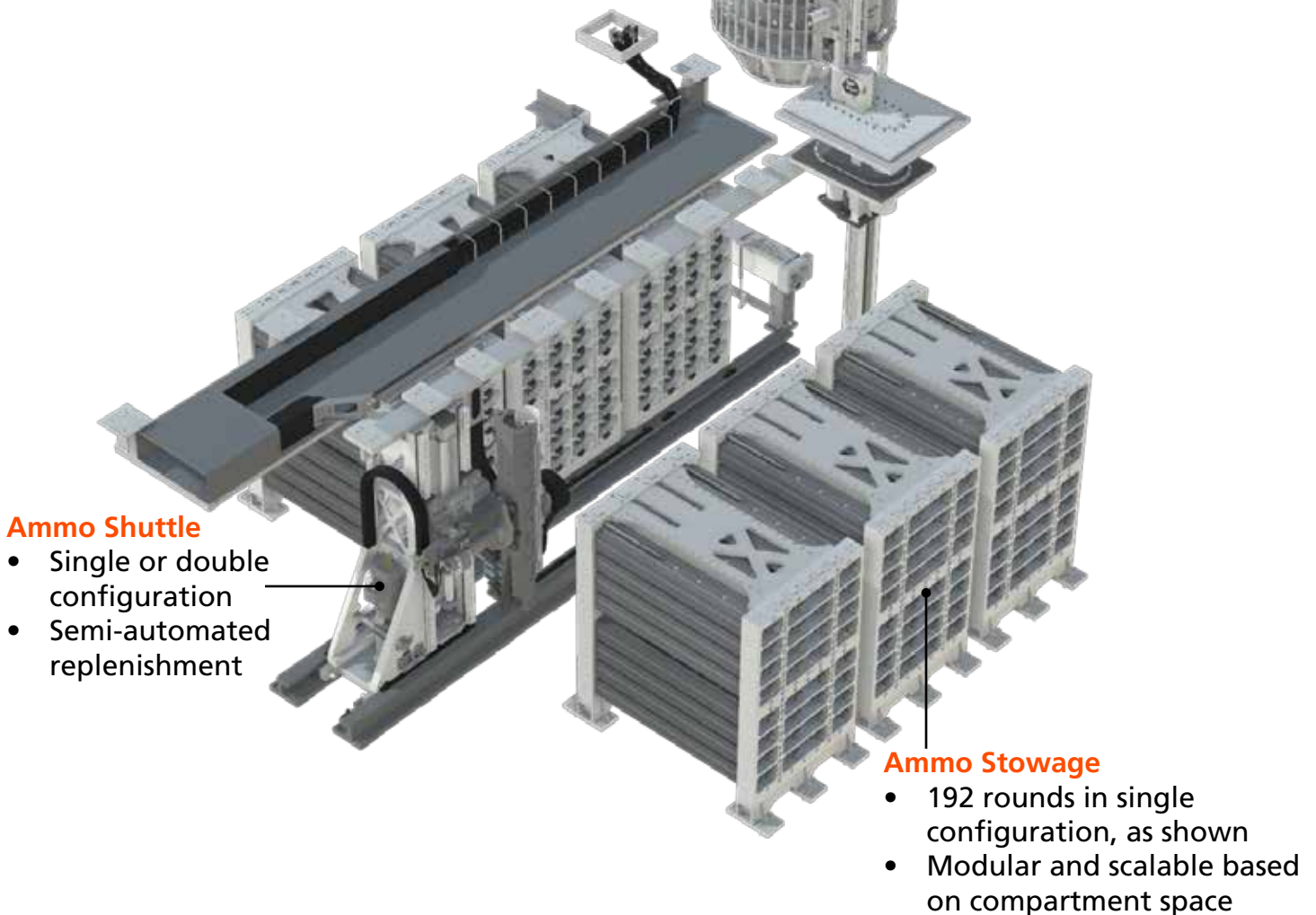
**Safety** – Safety is improved over manual magazines by eliminating hazards associated with direct man-machine interaction during loading operations. Man-munition interaction is limited to replenishment activities only. The AHS maintains positive control of the ammunition at all times, similar to the Mk 45. Primary high-power electronics are located outside of the magazine space.

**Human Factors** – The AHS is designed to meet Mil-std-1472, including replenishment operations.

**Additional Ammunition Bulk Stowage Options** – Total on-board ship stowage capacity is easily increased with bulk stowage options that include storing ammunition shipping pallets and the use of existing designs for floor-to-ceiling bulk stowage.

## Mk 45 Mod 4 with Single Shuttle Ammunition Handling System

	Weight [kg]
<b>Topside</b>	<b>22,600</b>
Mk 45 Mod 4 Mount	22,600
<b>Gun Bay Level</b>	<b>8,325</b>
Lower Gun Components	3,875
AHS Gun Bay Components	4,450
<b>Magazine Level</b>	<b>38,800</b>
Magazine Handling Equipment	7,150
Stowage Modules (192 Cell)	21,150
192 All-Up Rounds	9,800
Miscellaneous AHS Magazine Components	700
<b>System Weight - Empty</b>	<b>59,925</b>
<b>System Weight - Full Load-Out</b>	<b>69,725</b>



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