FAIRBANKS MORSE
DEFENSE

Handling Systems
Product Catalog

Product Catalog

TABLE OF CONTENTS

FMD – Overview

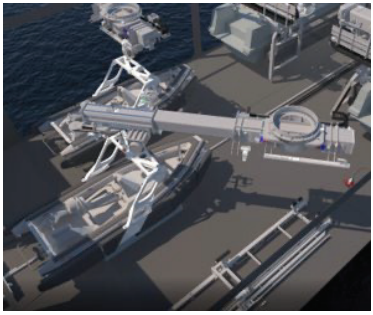
For over a century, Fairbanks Morse Defense (FMD) has been a trusted leader in delivering innovative solutions to support naval fleets worldwide. Building on this legacy, FMD has expanded its capabilities through the strategic acquisitions of Federal Equipment Company, Welin Lambie, and Vestdavit—each with a rich history in advanced handling systems. Federal Equipment Company has long been a pioneer in mission-critical equipment for naval applications, Welin Lambie boasts a storied legacy in davit systems dating back to the early 1900s, and Vestdavit has established itself as a global leader in cutting-edge boat-handling technology. Together, these companies strengthen FMD's position as a premier provider of comprehensive, reliable solutions for maritime operations.

HANDLING SYSTEMS

MISSION BAY HANDLING SYSTEMS

Vestdavit's Mission Bay Handling System (MBHS) is engineered to meet the growing operational demands of modern vessels, ensuring efficient handling of multiple boats and mission critical payloads while optimizing available deck space. Designed with advanced functionality, the MBHS is tailored to the specific requirements of customers, delivering a highly adaptable and space-saving solution for naval, coast guard, and offshore vessels. As ships continue to evolve with multi-mission capabilities, the need for a versatile, high performance boat handling system becomes crucial, and our MBHS provides this seamless integration for vessel operations.

Mission Bay Handling system can be configured based on customer specific needs and with the use of various davit types



ADVANCED WEAPONS ELEVATOR (AWE)

The Advanced Weapons Elevator (AWE) was developed collaboratively working with MagneMotion and key stakeholders from Newport News Shipbuilding and NAVSEA. Originating as a concept during the early phases of new aircraft carrier design studies intending to replace the Nimitz class carriers, the design was eventually selected for the CVN 78 Ford Class.

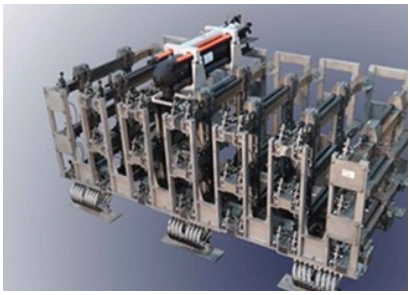
The main goal of the new weapons elevator was to improve the rate of weapons movement on the ship from magazines to the topside and visa-versa, commonly referred to as strike-up and strike-down. The AWE consists of a ropeless elevator system utilizing linear synchronous motors (LSM), advanced control systems, wireless technology, as well as many other innovative subsystems.

The initial AWE design endured extreme qualification trials including shock, vibration, and EMI tests along with extensive load and reliability testing. Ultimately, the AWE system successfully achieved the 24,000 pound rated load capacity and 150 feet per minute speed requirement exceeding the legacy system capacity and speed by over 200% and 150%, respectively.

SURFACE MINE NEUTRALIZATION SYSTEMS (SMNS)

To supplement FEC's variety of Navy weapons handling equipment (WHE), our specialized weapons design team developed the storage and handling system for the Surface Mine Neutralization System (SMNS) working with Lockheed Martin Corporation. Implemented on mine counter measure (MCM) vessels such as the Avenger Class ships, the system is utilized to stow the SeaFox unmanned underwater vehicle (UUV). The SeaFox UUV's are deployed primarily for mine disposal as well as intelligence and surveillance missions.

The SeaFox storage and handling system consists of two main components, the rack and the hoist. The rack assembly provides safe and efficient stowage for the SeaFox and is fully shock qualified in accordance with MIL-S-901. The robust design is completely marinized incorporating shock isolation mounts to sustain the extreme forces of a shock event as well as sea states. The hoist assembly is utilized to lift and transport the SeaFox UUV's in preparation for launch. The motors are pneumatically operated with one motor to raise/lower the vehicle and another to traverse the space. The SeaFox drones are stored in two separate spaces so two hoists are required along with 3 unique racks per shipset.

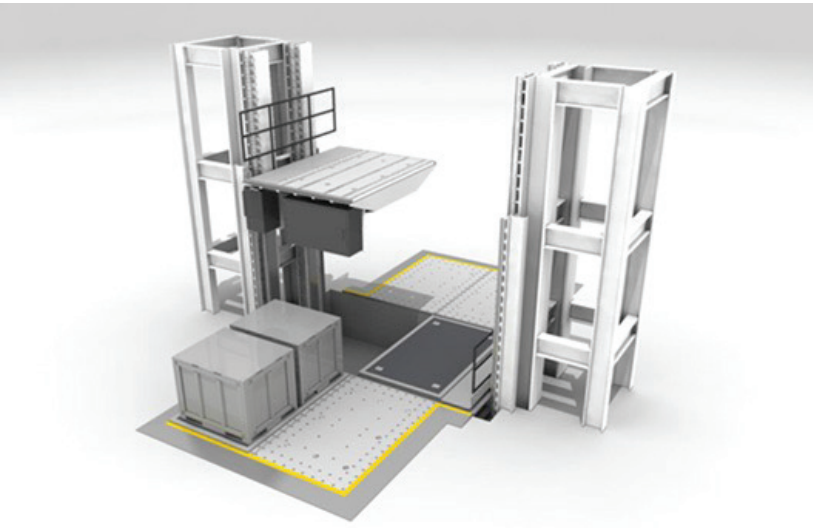


AUTOMATED SHIPBOARD MATERIAL HANDLING

As an innovative leader in shipboard material handling systems, FMD has been a key contributor to an Office of Naval Research (ONR) led consortium focused on automating cargo transfer and stowage onboard the ship with the goals of reducing manpower and improving material flow rates. As part of a five-year program, we designed and developed a working prototype to automate shipboard material handling, referred to as High Rate Vertical to Horizontal Material Movement (HRVHMM).

The HRVHMM system incorporates linear motors for both horizontal and vertical propulsion of an aluminum payload carrier rated to handle loads up to 6,000 pounds. The automated loading and unloading of the elevator coupled with a split elevator platform design helps alleviate many of the bottlenecks experienced by ships force during replenishment operations by smoothly transferring cargo from the storeroom horizontally to the elevator for vertical transport. Along with these additional capabilities, the ship can maintain the benefit of using the system as a conventional elevator as required.

The system consisted of one cantilevered split elevator platform with horizontal material movement in both the fore/aft and athwartship directions. With continued support from the ONR sponsored team, FEC modified and installed the HRVHMM on the USNS Washington Chambers (T-AKE 11) for operational sea trial testing.



DAVIT SYSTEMS

DAVIT SYSTEMS

Fairbanks Morse Defense is renowned for its bespoke engineering solutions. We deliver **tailor-made** davit systems that meet the unique operational demands of the navy, and other maritime customers worldwide. We offer decades of experience to davit systems for military applications driven by innovation by combining advanced technology with deep maritime expertise to create systems that excel in harsh environments and complex missions. Whether it's adapting to specific vessel layouts, integrating motion-compensating features, or supporting high-speed operations, our flexible approach ensures every solution is purpose-built and future-ready.

We know the meaning of "Meeting the Mission Requirements" and "Long Term Supportability" and supply niche solutions for handling, launching and recovering manned and unmanned craft in difficult conditions at sea.

By developing designs, providing the engineering, and bringing them to manufacture, we are able to accommodate designs for all types of craft including USV's.

The flexibility and versatility of our davit systems is playing an ever-increasing role in faster smaller ships. FMD davits are available in many configurations and materials.

NAVY APPLICATION DAVITS

Vestdavit delivered two advanced dual TDB-7000 davit systems to the USS John L. Canley (ESB-6), a newly commissioned Expeditionary Sea Base ship built by General Dynamics NASSCO

SINGLE POINT DAVITS

SINGLE POINT DAVIT

A single point davit is a compact and efficient launch and recovery system designed to handle MOBs, FRCs, seaboats, interceptor boats, offshore raiding craft, smaller workboats, liferafts, USVs and UUVs, using a single lifting point. These davits are widely used in the naval, offshore, commercial, search and rescue industries, offering reliable and safe deployment solutions even in challenging conditions. Single point davits are a crucial component in the maritime industry, providing a fast, reliable, and safe solution for launching and recovering boats and life rafts.

Vestdavit PLR-5003 davit on board the Norwegian Coastguard KV Bjørnøya

PLR DAVIT

The PLR Series is suitable for a large range of boat types and working loads depending on the model. Anti-pendulation hydraulic guiding arms are an effective feature for increasing safety and widening the operational window.

PLR Davit features:

- Shock Absorber
- Standard Keel Support
- Hydraulic guiding arms
- Wire puller
- Limit switch

Optional features:

- Upgraded Winch Speed
- SOLAS
- Constant Tension System
- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless steel tank
- Soft starter
- Stainless steel starter for outdoor placement
- Metallization
- Remote Control (wired or wireless)
- Skid
- Speed 50 m/min
- -40 degrees winterisation

PLR Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	1000-15000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic Shock Absorber, Wave Compensation System on winch, Hydraulic Wire Puller, Hydraulic Limit Switch, Remote Operated PLC
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Offshore Patrol Vessels. Fishery Protection and Law Enforcement Vessels. Search and Rescue Vessels

PLD DAVIT

The PLD series is a modular and highly customizable system with a large weight range. The modular design allows the user to remote and replace components easily, thereby saving time and cost. The PLD series can be equipped fully removable with a triaxially compensated docking head for anti-pendulation.

PLD Davit features:

- Standard Keel Support
- Wire puller
- Limit switch
- Shock absorber

Optional features:

- Upgraded Winch Speed
- Docking head
- SOLAS
- Constant Tension System
- Stainless steel fittings
- Control stand

- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Metallization
- Enclosed Inspection Ladder
- Remote Control (wired or wireless)
- Skid
- Hydraulic Guiding arms
- -40 degrees winterisation

PLD Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	4000-20000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic Shock Absorber, Wave Compensation System on winch, Hydraulic Wire Puller, Hydraulic Limit Switch, Remote Operated PLC
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Commercial Vessels. Ocean Going Patrol Vessels

PAP DAVIT

The PAP is a single point davit designed for launch and recovery of large workboats. The docking head is triaxially compensated and integrated into the davit structure.

PAP Davit features:

- Docking head
- Shock absorber
- Constant Tension System
- Wire puller
- Limit switch

Optional features:

- Winch Speed 40m/min
- Dead ship emergency lowering in accordance
- with Seismic Emergency Regulations
- Stainless steel fittings
- Control stand

- Control station
- Multi Keel Support
- Submerged HPU (or top mounted for outdoor
- placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Metallization
- Enclosed Inspection Ladder
- Remote Control (wired or wireless)
- Skid
- Hydraulic Guiding arms
- -40 degrees winterisation

PAP Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	2000-20000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic Shock Absorber, Wave Compensation System, Hydraulic Wire Puller, Hydraulic Limit Switch, Remote Control Operated PLC
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Commercial & Military Vessels

PL DAVIT

The popular PL Series is highly customizable and suitable for both civilian and military applications. The series is Vestdavit's most compact and can be transported within a standard 20 foot ISO container, reducing delivery time and cost.

PL Davit features:

- Shock Absorber
- SOLAS
- Standard Keel Support

Optional features:

- Constant Tension System
- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Metallization
- Remote Control (wired or wireless)
- Skid Hydraulic Guiding arms
- Wire puller
- Limit switch
- Upgraded Winch Speed
- -40 degrees winterisation

PL Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	1000-4000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Hydraulic shockabsorber, Self Tension
Power	Hydraulic
Typical Users	Ferries, High Speed Ferries, Supply Vessels, Fishing Vessels and Merchant Vessels

PLA DAVIT

Vestdavit PLA series is a fully hydraulically operated single-point aluminum A-frame davit.

PLA Davit Features:

- Shock Absorber
- Standard Keel Support
- Metallization
- Hydraulic guiding arms
- Wire puller
- Limit switch

Optional Features:

- SOLAS
- Constant Tension System
- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless steel tank
- Soft starter
- Stainless steel starter for outdoor placement
- Remote Control (wired or wireless)
- Skid
- Speed 50 m/min
- -40 degrees winterisation

PLA Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	2000-6000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Self Tension, Line Puller, Hydraulic End Stop, Remote Control
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Fast Patrol Boats

PAPH DAVIT

Our PAPH series is an anti-pendulation system with a fully integrated docking head.

PAPH Davit Features:

- Docking head
- Shock absorber
- Constant Tension System
- Wire puller
- Limit switch
- Remote control (wired or wireless)
- PLC control
- Linear sensor in cylinders

Optional Features:

- Winch Speed 40m/min
- Dead ship emergency lowering in accordance with Seismic Emergency Regulations
- Stainless steel fittings
- Control stand
- Control station
- Multi Keel Support
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Metallization
- Enclosed Inspection Ladder
- Skid
- -40 degrees winterisation

PAPH Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	3000-20000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic Shock Absorber, Wave Compensation System, Hydraulic Wire Puller, Hydraulic Limit Switch, Remote Control Operated PLC
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Pilot HQ Vessels, Major Warships (FF equivalent or greater)

PLAR DAVIT

The PLAR is a single point aluminum davit that delivers weight savings of 30% over an equivalent steel system, thereby reducing upper deck weight on the platform. The system is highly customizable.

PAPH Davit Features:

- Shock Absorber
- Standard Keel Support
- Metallization
- Hydraulic guiding arms
- Wire puller
- Limit switch

Optional Features:

- SOLAS
- Constant Tension System
- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless steel tank
- Soft starter
- Stainless steel starter for outdoor placement
- Remote Control (wired or wireless)
- Skid
- Speed
- 50 m/min
- -40 degrees winterisation

PLAR Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	2000-7000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic Shock Absorber, Wave Compensation System on winch, Hydraulic Wire Puller etc
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Military Inshore and Offshore Patrol Vessels. Law Enforcement Interceptor Vessels

PLi DAVIT

The PLi Series is a fully integrated “plug and play” system with built in power pack, starter and control system. Installation is simple and requires simply that the frame is welded/bolted to the deck and that the power supply be connected.

PLi Davit Features:

- SOLAS
- Shock Absorber
- Remote (wired)
- Stainless steel starter

Optional Features:

- Stainless steel fittings
- Stainless steel starter for outdoor placement
- Metallization
- -40 degrees winterisation

PLi Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	2000-4000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Hydraulic Shock Absorbers
Power	Hydraulic Power with stored power via accumulators in accordance with SOLAS
Typical Users	Ferries, High Speed Ferries, Fishing Vessels, Merchant Vessels

L DAVIT

A single point system designed to launch life rafts. The L davit can launch up to 3 life rafts sequentially in the event of a vessel power loss.

L Davit Features:

- SOLAS

Optional Features:

- Stainless steel fittings
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Metallization
- -40 degrees winterisation

L Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	1500-3500 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	CE marking according to the Marine Equipment Directive
Power	Hydraulically operated via stored power in compliance with latest SOLAS. HPU for the refilling of accumulators
Typical Users	Commercial & Military Vessels

PIV SERIES

The PIV 3.6 E was developed from the existing PIV series of davits and provides a low weight system and incorporates both shock and EMI requirements.

The aluminum A frame construction incorporates many other weight saving attributes. Components have been selected from other proven Navy davit applications to meet the high duty cycle of mission requirements and the weight sensitivity of the combatant ship design needs.

The PIV 3.6 E davit is supplied with variable speed power hoist / lower and luffing and has adjustable falls tensioning. The modular davit has bolting interfaces for ease of installation and full manual operation for all principal operations. Included are integrated boat chocks and RHIB docking frame. Options include:

- Full Intergraded Diagnostic System
  - Release Hook
  - Davit Head Flood Lights for Night Ops

The PIV series offer a range of self-contained or modular davits that can incorporate optional performance enhancing features:

- Falls Tensioning
- Shock Absorber
- RIB Docking Frames
- Integrated Boat Stowage
- Davit Head Lighting
- Integrated Diagnostic / System Monitoring

The PIV series are fully approved systems designed for SOLAS 20° list and 10° trim conditions.

For weight sensitive applications PIV davits can be offered in aluminum.

Using high quality marine grade aluminum and stainless steel, the davit offers superior durability and low maintenance.

Davit Type	SWL	Operation
PIV 1.0 / 1.6	1000 – 1600 KG	Electric/Hydraulic/Manual
PIV 2.3	2300 KG	Electric/Hydraulic/Manual
PIV 3.0 / 4.0	3000 – 4000 KG	Electric/Hydraulic/Manual
PIV 3.6 E	3600 KG	Electric/Manual

LUM
(Luffing Under Momentum)

Configured as a gantry type davit offering significant flexibility over other davits for multi-tasking requirements. The standard type: LUM is a modular davit with electric winches and hydraulic luffing.

The davit operations have variable speed hoist / lower/ luffing with independent falls tensioning.

The LUM offers multiple options that include:

- Single & Dual Point Operation
- Movable Hook Centers
- Multi-Level Boat Stowage
- Davit Diagnostic System with Flat Screen
- Release Hooks
- Night Ops Flood Lights

Davit Type	SWL Range	Multi Tasking	Operation
LUM 12 A	3000 - 12000KG	7 – 12 M RHIB(s)	Electric / Hydraulic
LUM 25 A	25000 KG	3 Types LCVP	Electric / Hydraulic

FAO
(Fixed Arm Outboard)

The FAO davit has been designed to be installed on Dock Landing and Amphibious Assault Vessels for the operation of RHIBs and other small boats. This is a fixed davit that stows the deployable assets over the side of the selected vessel.

The davit system has independent falls tensioning and can be operated as a single or dual point davit and is fitted with shock absorbers and boat stowage system.

This davit has completed EMI certification under MIL-SDT-461 E. Options for this system include:

- Davit Diagnostic System with Flat Screen
- Night Ops Flood Lights
- Release Hooks

UDUD

(Under Deck Track Davit)

Designed and developed for the installation in a hull pocket, the UDTD provides all electric operation. The davit provides variable speed operation for both hoist / lower and traversing in/out board, falls tensioning is also provided. The davit is also equipped for manual operation.

The davit is supplied with EMI certification to MIL-STD- 461 E and electrical certification to MIL- STD- 1399.

This davit category is in production and incorporates some of the very latest combatant ship requirements of all electric operation.

Davit Type	SWL Range	Multi Tasking	Operation
UDTD 3.2 A	3200KG	7 – 8 M RHIB	Electric / Manual

SARBE 22C

The SARBE series davit offers further variants including the “C’ version that allows both the vertical post and winch to remain stationery whilst the arm rotates providing 360° operation.

This allows the davit to be placed closer to the deck edge and allows the operator to remain in the safety of the inboard position.

Davit Type	SWL	Radius(Fixed)	Operation
SARBE 22C	3175KG	3.2 to 5 M	Electric /Manual

DUAL POINTS/
TWIN PIVOT DAVITS

DUAL POINT DAVIT / TWIN POINT DAVIT

Vestdavit's innovative and robust dual point davits are engineered to handle substantial workboats and daughter craft, with lifting capacities of up to 60 tons. These systems are equipped with advanced computer-assisted features, which support operators in performing safe launch and recovery operations, even in the most challenging sea conditions. Our dual point davits leverage sophisticated technology to optimize control and precision, allowing operators to execute complex manoeuvres with enhanced safety. This dual fall technology is a cornerstone of our systems, as it significantly boosts security and stability for both the boat and crew.

Vestdavit also delivered two TDB-7001 dual-point davit systems along with a painter boom to Austal USA for integration into the USNS Apalachicola (EPF-13), part of the U.S. Navy's Expeditionary Fast Transport program.

H DAVIT

The H davit is a two-point davit for lifeboats. The system can be configured to launch and recover both lifeboats and rescue boats. The design can be modified significantly to handle lifeboats of varying size whilst retaining class approval.

H Davit Features:

- SOLAS
- Shock Absorber
- Limit switch

Optional Features:

- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU
  (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for
  outdoor placement
- Remote Control
  (wired or wireless)
- Wire puller
- -40 degrees winterisation

H Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	5000-24000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic shock absorber, self-tension winch system
Power	Hydraulic with stored power in accordance with SOLAS
Typical Users	Merchant Vessels, Passenger Ferries/Cruise Ships

HN DAVIT

The H davit is a two-point davit for lifeboats. The system can be configured to launch and recover both lifeboats and rescue boats. The design can be modified significantly to handle lifeboats of varying size whilst retaining class approval.

HN Davit Features:

- Shock Absorber
- Constant Tension System
- Standard Keel Support
- Wire puller
- Limit switch

Optional Features:

- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Remote Control (wired or wireless)
- Skid
- Flexible hook distance
- -40 degrees winterisation

F DAVIT

The Vestdavit F series is a dual point davit system that implements the dual fall technology of the HN series. The F-Frame provides advantage in that it is an open architecture solution which provides greater access to the craft in stored position and thereby facilitates payload transfer and maintenance.

F Davit Features:

- Shock Absorber
- Constant Tension System
- Standard Keel Support
- Wire puller
- Limit switch

Optional Features:

- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Remote Control (wired or wireless)
- Skid
- -40 degrees winterisation

FF DAVIT

The Vestdavit FF series is a dual point davit system that builds on the F davit. It employs flexible hook distance technology, allowing the davit to reconfigure the falls and handle multiple payloads. This allows for launch and recovery of both smaller crafts in single point configuration and larger crafts in dual point configuration. This is achieved by utilizing hydraulic cylinders and is an automatic evolution regulated by PLC.

FF Davit Features:

- Shock Absorber
- Constant Tension System
- Standard Keel Support
- Wire puller
- Limit switch
- Flexible hook distance

Optional Features:

- Stainless steel fittings
- Control stand
- Control station
- Submerged HPU (or top mounted for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Remote Control (wired or wireless)
- Skid
- -40 degrees winterisation

TWIN PIVOT

(TWIPVE)

The TWPIV “A” is a modular davit with all bolting interfaces that incorporates a number of performance enhancing features including mechanical arm falls tensioning and integrated boat stowage. This davit is SOLAS compliant.

The TWPIV “B” is a self-contained “Palletized” davit that is part of a rotatable pool of davit systems. Incorporating several performance enhancing features that include:

- Independent Falls Tensioning
- Integrated Boat Stowage
- Night Ops Flood Lighting
- Expandable Hook Centers

This davit is SOLAS compliant and is the primary davit of the United States Coast Guard

Davit Type	SWL Range	Use	Operation
TWPIV A	5000 KG	7 M Workboat	Electric /Hydraulic/Manual
TWPIV B	5000 KG	7–8 M RHIB	Electric /Hydraulic/Manual

COMMERCIAL DAVITS

COMMERCIAL DAVIT

All davits listed under Navy Application Davits can also be positioned under Commercial davits. This reinforces our capability to deliver the full range of solutions across all segments. It also highlights our ability to meet the additional requirements commonly expected by the Military, Navy customers.

Overall, this approach showcases our versatility and proven experience across all markets.

Vestdavit's PLR-5000 davit. With seven Vestdavit systems on board, HMS Protector is the company's unofficial flagship. The advanced icebreaker provides a UK presence in the Antarctic and meets treaty obligations on inspections and hydrographical charting as well as in support of scientific research.

SARBE 1:0 / 1:3A

The SARBE version has electric / hydraulic operation and is supplied with a self-contained power pack with accumulator. The standard winch is power hoist / gravity lower with power lower / hoist is available as an option.

Designed for 20° list and 10° trim conditions ABS certification is standard and other classification societies are available on request.

Davit Type	SWL	Radius (Fixed)
SARBE 1.0 A	1000 KG	3.2 to 5 M
SARBE 1.3 A	1350 KG	3.2 to 4.4 M

SARBE 8A

The SARBE series offers a low installation impact and features both electric hoist with gravity lowering, power / hoist and power lower options. The slewing is by electric motor and / or manual operation.

Designed for 20° list and 10° trim conditions ABS certification as standard with other classifications societies available on request.

For weight sensitive applications like fast ferries the SARBE “F” version is available in aluminum construction. Using high quality marine grade aluminum and stainless steel offers superior durability.

Davit shown with optional ice protection Covers.

Davit Type	SWL Range	Use	Operation
SARBE 8 A	1000 KG	3.2 to 5 M	Electric /Manual
SARBE 8 A	1350 KG	3.2 to 4.2 M	Electric /Manual
SARBE 8 A	1600 KG	3.2 to 4 M	Electric /Manual

TELESCOPIC DAVITS

TELESCOPIC DAVIT

Vestdavit's telescopic type davits are highly specialized deck head mounted davit systems, engineered for seamless launch and recovery operations from a recess or boat bay. These davits offer exceptional versatility with a Maximum Working Load (MWL) ranging from 3,600 kg to 25,000 kg, making them suitable for a wide range of vessel applications, from naval ships to offshore support vessels. Their unique design allows them to be deployed in confined spaces while ensuring efficient and safe handling of boats and equipment in challenging marine conditions.

The Vestdavit Dual TDB Series represents the pinnacle of modern heavy lift davit technology, engineered to meet the rigorous demands of naval, coast guard, offshore, and commercial maritime operations.

TELESCOPIC DAVIT

The telescopic davit is a single point, deck head mounted system that combines compact design with high performance. The telescopic davit can be installed as a standalone, single-lift system, or combined in pairs to a dual-lift system with twice the system MWL.

TDB Davit Features:

- Constant Tension System
- Metallization
- Hydraulic guiding arms
- Wire puller
- Limit switch

Optional Features:

- Speed 40 m/min (up to 15T MWL)
- Speed 50 m/min (up to 7T MWL)
- SOLAS
- Dead ship emergency
- Stainless steel fittings
- Control stand
- Control station
- Standard Keel Support
- Multi Keel Support
- Submerged HPU (or top mounted
- for outdoor placement)
- HPU stainless tank
- Soft starter
- Stainless steel starter for outdoor placement
- Remote Control (wired or wireless)
- Hydraulic guiding arms
- -40 degrees winterisation

Dual TDB Series Davit Specifications:

Approvals	DNV. Other class societies on request
Capacity	7000-50000 kg
Certificate	CE marking according to the Marine Equipment Directive
Optional Equipment	Dynamic Shock Absorber, Wave Compensation System on winch, Hydraulic Wire Puller, Hydraulic Limit Switch, Remote Operated PLC
Power	Dynamic Shock Absorber, Wave Compensation System on winch, Hydraulic Wire Puller, Hydraulic Limit Switch, Remote Operated PLC
Typical Users	Commercial Vessels. Ocean Going Patrol Vessels. Mission Bay Equipped Military Vessels

NORSOK DAVITS

NORSOK DAVIT

The stringent NORSOK R002 regulations are fundamentally reshaping davit design for offshore operators within Norwegian maritime zones.

These regulations, specifically tailored for davits and lifting appliances deployed on offshore installations, mandate a comprehensive suite of design features and advanced safety systems. This rigorous framework ensures the highest levels of operational safety and reliability, reflecting the demanding nature of offshore environments. Compliance with NORSOK R002 is not merely a regulatory requirement but a critical factor in ensuring the protection of personnel and assets in these challenging conditions.

NORSOK DAVIT

Vestdavit's NORSOK-compliant davits are designed and manufactured to safely operate in the demanding environmental conditions encountered in daily offshore oil and gas operations. Engineered in full accordance with NORSOK R-002 standards, these systems deliver uncompromising safety, reliability, and performance.

NORSOK Davit Features:

- Shock Absorber
- Constant Tension System
- Keel/fender support
- Hydraulic guiding arms (PLR-type only)
- Wire puller
- Limit switch
- Control station

Optional Features:

- SOLAS
- Stainless steel fittings
- Submerged HPU (or top mounted for outdoor installation)
- HPU stainless steel tank
- Soft starter
- Stainless steel starter cabinet for outdoor installation
- Metallization
- Remote Control (cabled and/or wireless)
- Skid
- -40 degrees winterisation
- Approved for installation in ATEX zone 1 or 2

D-TYPE NORSOK DAVIT

The D-type NORSOK davit consists of a fixed A-frame structure, specifically designed for installation onboard fixed platforms. The compact and robust design makes it well suited for mounting on a bespoke skid solution supporting all the auxiliary equipment.

PLR-TYPE NORSOK DAVIT

The PLR-type NORSOK davit is a pivoting A-frame davit equipped with all the necessary equipment for safe launch and recovery in harsh offshore environments. Specifically designed for installation onboard floating platforms and vessels.

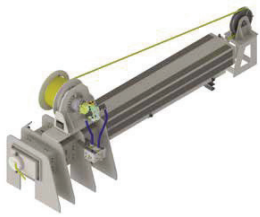
PAINTERBOOMS

PAINTERBOOM

Vestdavit produces painter boom systems as a complimentary system to our davit systems. The painter boom systems, once connected, maintain the longitudinal craft position in relation to the mother vessel. This is crucial if planning to launch and recover whilst making way. Vestdavit develops its painter boom systems to the requirement of each individual project, and they fall into two main categories:

- **Telescopic Painter Booms (PBT)**
- **Hinged Painter Booms (PBH)**

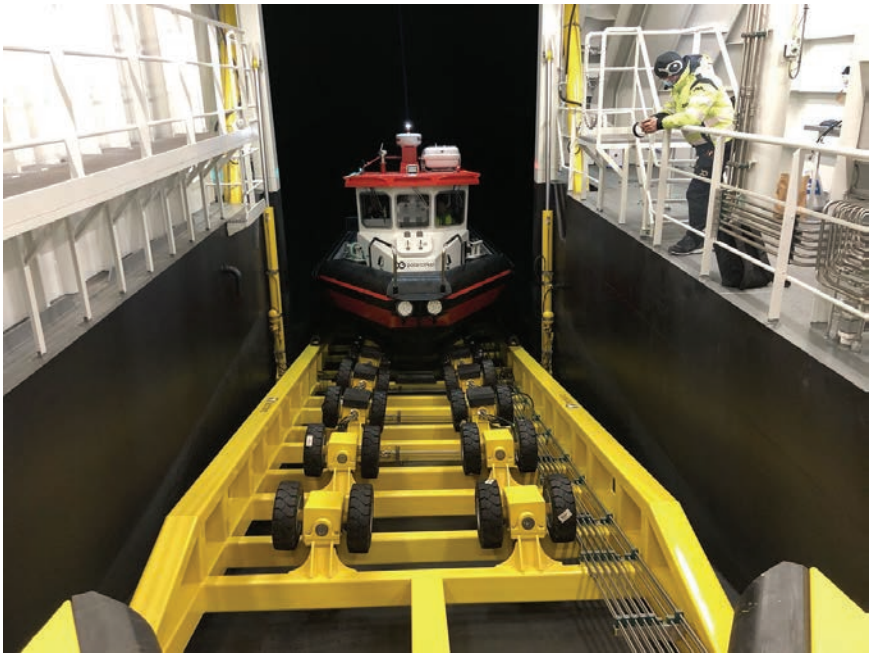
The PBT type is stored internally within the vessel and extends when required, whilst the PBH type is mounted on the external surface of the mother vessel and folds out into the launch and recovery position. Depending on the operational requirements of the end user, the painter boom systems can be coordinated with the davit system by PLC. In the case of the launch and recovery of multiple types of crafts, the painter boom can be made to be adjustable relative to the distance from the mother ship by utilizing a winch system. Other optional equipment includes shock absorbers and constant tension system.



STERN RAMP LAUNCHES & RECOVERY SYSTEMS

SLIPWAY / STERN RAMP LARS

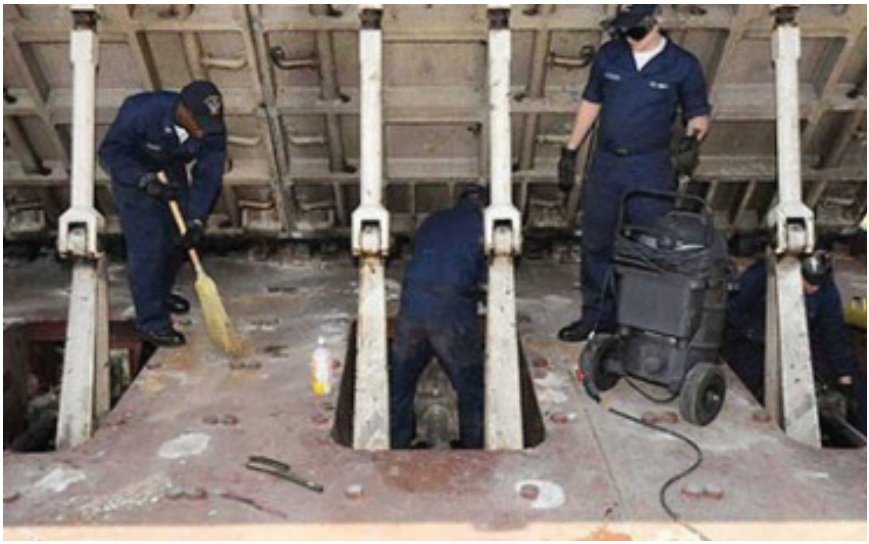
Vestdavit's newly developed Slipway / Stern Ramp system represents a forward-thinking solution designed to support the efficient launch and recovery of manned and unmanned crafts at the stern. This system is built to handle various operational scenarios, providing a robust and dependable means of boat handling that complements our broader range of side launch and recovery systems (LARS). One of the key advantages of the Slipway system is its potential to significantly expand the operational capabilities, particularly when integrated with unmanned launch and recovery (ULR) technologies.



AIRCRAFT LAUNCHES & RECOVERY EQUIPMENTS (ALRE) / AVIATION SUPPORTS

JBD MANIFOLDS

On aircraft carriers, one of the more distinguishable features on the flight deck is the catapult system's JBD. JBDs are deployed during flight operations while launching aircraft from the catapults. The JBD panels are raised and lowered to provide protection to adjacent aircraft and flight deck personnel from jet blast as taxing aircraft await the pending catapult launch. In order to sustain the significant heat generated by the jet blast, the JBDs are outfitted with cooling modules and manifolds that circulate sea water pumped up from below decks. FEC is a key contributor to aircraft launch and recovery equipment (ALRE) as one of only a couple qualified suppliers to manufacture the JBD Manifolds.



AVIATION GROUND SUPPORT EQUIPMENT

Our expertise extends to other branches of the military, having furnished common ground support equipment (GSE) for the US Army and Air Force. Aviation GSE is utilized to assist in the transport, maintenance and service of aircraft in between flights. FEC has manufactured and tested jet engine trailers and helicopter engine maintenance stands consisting of various steel and aluminum weldment assemblies in accordance with the stringent requirements necessary for handling flight critical engines/components.

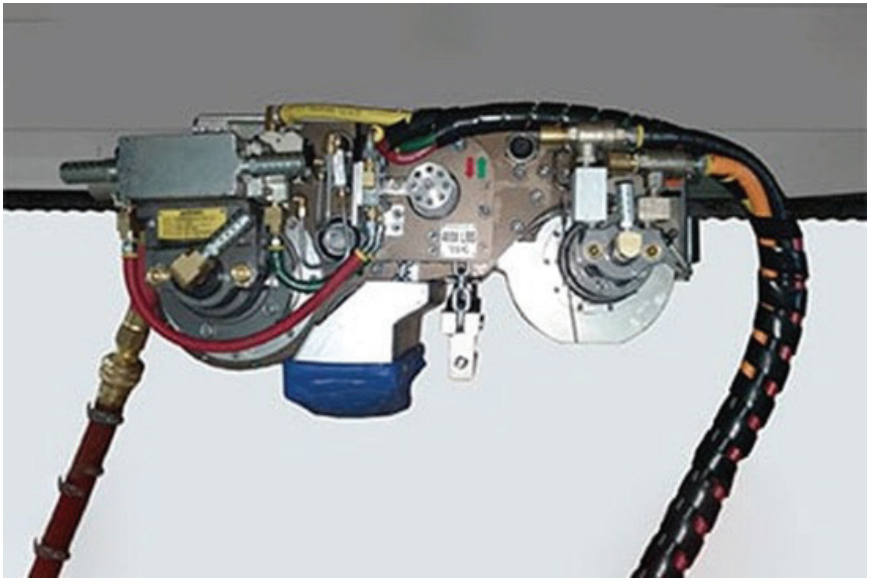
DECK MACHINERY SOLUTIONS

HOISTS

FMD has become the Navy's leading choice for specialized hoists utilized for critical handling of various weapons and cargo. Our hoists can be found throughout weapons magazines and aviation maintenance spaces on aircraft carriers and amphibious ships.

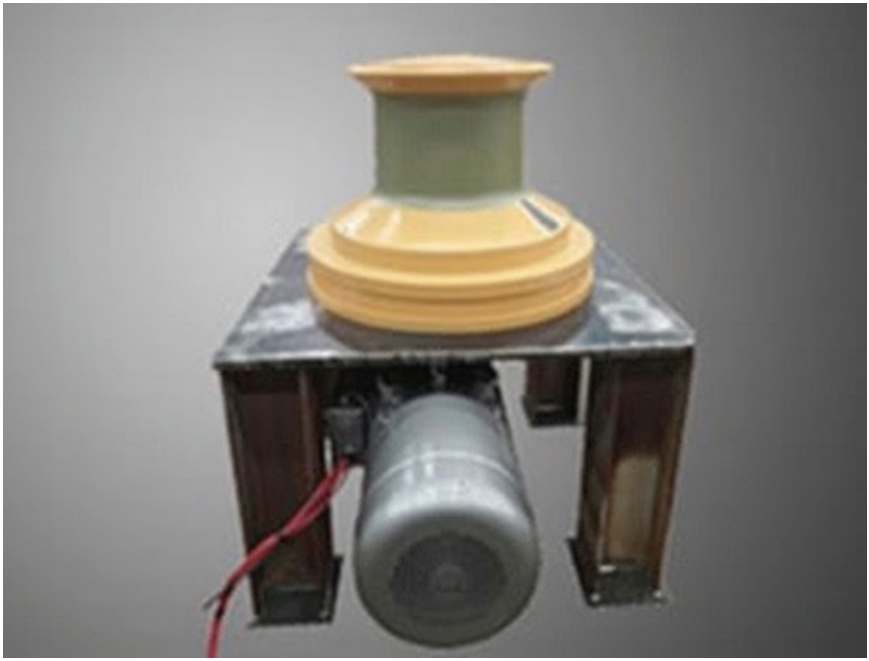
Most notably, FEC's development and production of a new concept, low headroom trolley type pneumatic hoist helped to resolve a fleet wide obsolescence issue. These hoists are typically used to facilitate weapons assembly and transfer onboard the ship. As such, they undergo extreme qualification and load testing including shock and vibration testing.

Additionally, we can furnish a variety of hoists for shipboard applications in accordance with customer requirements. Manual chain hoists, electric hoists, wire rope or chain, of varying capacities and lifts can also be provided. Related hoisting accessories such as pendant controls, monorails, turntables, and track clamps can be included upon request. All hoist components whether air, electric, or manual powered are tested and certified in accordance with applicable specifications.



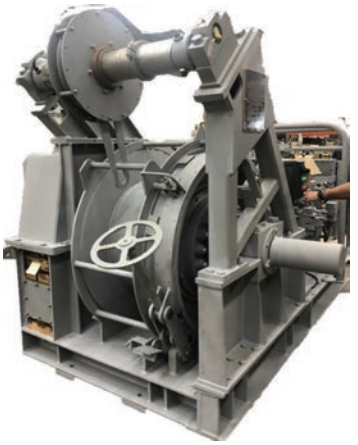
CAPSTANS

Used on the ship for mooring or warping operations, the capstan consists of a vertically mounted capstan head of varying diameters that is rotated usually electromechanically (or hydraulically) in order to apply a load/force on the mooring ropes or cables. FEC has furnished capstans to various shipbuilders for U.S. Navy and Coast Guard vessels and continues to expand this product line having added the Virginia Class Submarine (VCS) capstans to our commodities list.



WINCHES

Similar to capstans in some respects, winches usually involve a rotating drum which also allow stowage of ropes or cables. FEC furnishes a variety of Navy standard winches in accordance with build-to-print NAVSEA drawings including gypsy, saddle, spanwire, anti-slack device (ASD), barricade, and stern dock winch assemblies.



SLIDING PADEYES

Navy standard Underway Replenishment (UNREP) gear such as Sliding Padeyes (SPE's) and/or Kingposts manufactured in accordance with NAVSEA build-to-print (BTP) drawings fit well into FEC's deck machinery catalog. FEC can also manufacture BTP related products to help facilitate UNREP operations (e.g., snatch blocks, special fittings & rigging, etc.)

DUMBWAITERS

FEC is the leading provider of dumbwaiters for Navy shipboard use. Dumbwaiters of a variety of sizes, capacities, and travel lengths can be found on many U.S. Navy ship classes.

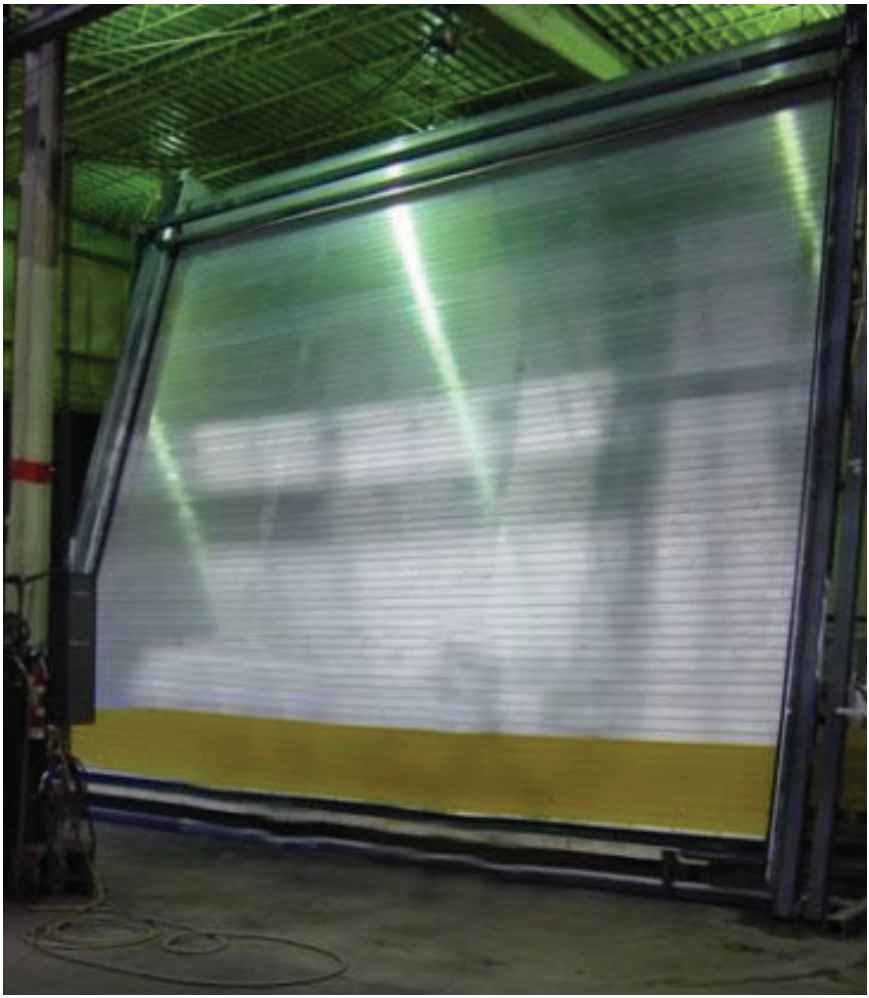
CONVEYORS & ELEVATORS

For decades, FEC has been the go-to supplier for complex cargo handling systems coupled with a long history providing elevator and conveyor field service and parts to the Navy, Coast Guard and shipbuilders. Whether handling pallets of missiles, bombs or beans, FEC is the leading choice to design, develop and meet the customers' lifting requirements. Most noteworthy is FEC's lead role as the primary supplier of the Advanced Weapons Elevator (AWE) for the new Ford Class aircraft carrier (See AWE section). FEC is also actively involved in other various lift systems on different ship platforms including an ammunition lift system for the new DDG Class.

HULL CLOSURES/DOORS

LITTORAL COMBAT SHIPS (LCS) ROLLER CURTAIN DOORS

FEC designed and manufactured the helicopter hangar doors for the LCS Independence variant. These doors are also manufactured from aluminum and rated for 40 psf wind load. These port and starboard roller curtain door assemblies meet all the LCS specification requirements including shock and EMI qualifications.



“DEEPWATER” NATIONAL SECURITY CUTTERS (NSC) ROLLER CURTAIN DOORS

The NSC Class ships also prominently display FEC helicopter hangar doors on the flight deck. These heavy duty helicopter hangar door systems are an all-aluminum construction rated to sustain a 40 psf wind loading.

T-AKE CLASS SHIPS ROLLER CURTAIN DOORS

FEC furnished all fourteen shipsets of the T-AKE hangar door assemblies. These doors consisted of flight deck/cargo doors with stainless steel roller curtains as well as helicopter hangar door assemblies rated at 60 psf.

FEC also produced the A-60 rated “Fire Doors” for the T-AKE class ships. The fire doors are electromechanically operated solid panels and are utilized to separate the helicopter hangar area from the interior cargo handling spaces. The doors are fabricated using steel plate with A-60 fire rated insulation applied between the vertical and horizontal door stiffeners. An expandable “fire seal” is present around the perimeter of each door to provide a seal with the adjoining bulkhead to prevent the passing of heat and smoke in the event of fire. These doors have been fully tested and certified to meet the A-60 fire door rating requirements.

HELICOPTER HANGARS

Federal Equipment Company has emerged as a leader in supplying, repairing and installing vertical rolling doors for both the United States Coast Guard and Navy. Federal Equipment Company supplies all repair parts for the helicopter hangar doors either directly from the OEM or manufactured in-house to exceed OEM requirements.

INNOVATION TECHNOLOGIES

UNMANNED VEHICLE (UXV) LAUNCH AND RECOVERY SYSTEMS

Vestdavit has extensive experience in integrating Unmanned Surface Vehicles (USVs) and Unmanned Underwater Vehicles (UUVs) into its advanced davit systems.

As maritime operations continue to evolve, the use of uncrewed systems has become increasingly critical for military, defence, research, offshore energy, and security applications. Vestdavit recognizes the unique challenges associated with launching and recovering UXVs in dynamic sea conditions and has developed specialized turnkey solutions to ensure safe, efficient, and controlled deployment. By leveraging our industry leading hydraulic davit technology, we provide reliable systems that accommodate both the maritime and shipping sector.

SKID SOLUTION

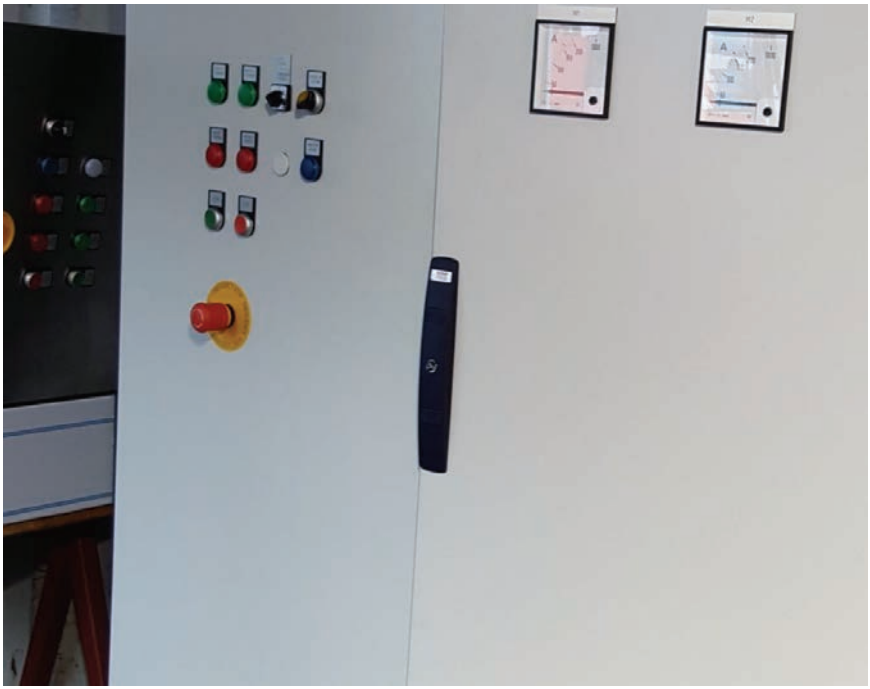
Skid-mounted davits from Vestdavit are designed as plug-and-play systems, offering ease of installation and removal to accommodate rapid role changes.

These self-contained units are pre-assembled to allow for quick positioning, and it is secured on deck with minimal effort. This design eliminates the need for complex integration processes, making it an ideal solution for vessels that require modular flexibility in their operations. Whether responding to mission-specific requirements or optimizing deck space for different payloads, operators can efficiently swap or reposition davits without extensive shipyard intervention, significantly reducing downtime and enhancing operational efficiency.

PROGRAMMABLE LOGIC CONTROLLER

At the core of many Vestdavit systems is our Programmable Logic Control (PLC), a cutting-edge technology that optimizes the efficiency, safety, and precision of davit operations.

PLC serves as the central intelligence of our systems, executing pre-programmed sequences that automate key functions, reducing the need for manual intervention. By integrating PLC, Vestdavit ensures that operators can launch, recover, and manage various payloads with a high degree of accuracy and control, even in the most demanding maritime conditions. This level of automation enhances mission readiness and allows crews to focus on critical tasks while the davit system operates seamlessly. One of the primary advantages of PLC technology is its ability to help coordinate the movement of different components, preventing operational conflicts and optimizing space utilization within mission bays.



FLEXIBLE HOOK DISTANCE

Vestdavit's flexible hook distance technology provides operators with unmatched versatility by allowing them to adjust the davit configuration based on mission requirements.

This innovation enables seamless selection between different craft types, such as a 15.000 kg craft in a single-point configuration or a 30.000 kg craft in a dual-point setup, ensuring optimal adaptability for varying operational profiles. The system achieves this transition using advanced hydraulic cylinders, which dynamically adjust the hook distance to accommodate different load capacities. This flexibility allows naval and offshore operators to deploy a wide range of craft without requiring multiple davit systems, thereby maximizing space efficiency and operational readiness.

ACTIVE HEAVE COMPENSATION (AHC)

Vestdavit's advanced davit systems can be designed to work with Active Heave Compensation (AHC) for UUV operations.

This integration allows for the precise and controlled launch and recovery of UUVs at a pre-determined, fixed depth relative to the sea belt, irrespective of wave-induced vessel motion. This capability is critical for maintaining operational stability and ensuring the safe deployment and retrieval of sensitive underwater equipment, even in challenging sea conditions.

The AHC unit has a sophisticated Motion Reference Unit (MRC) system that can control up to three distinct systems simultaneously, enabling complex operations with enhanced precision. For instance, it can manage a dual-point davit configuration, ensuring synchronized movement for large or complex UUVs, while also coordinating a painter boom system for accurate positioning and stabilization during launch and recovery. This multi-system coordination significantly enhances operational efficiency and safety.

CONTROLS

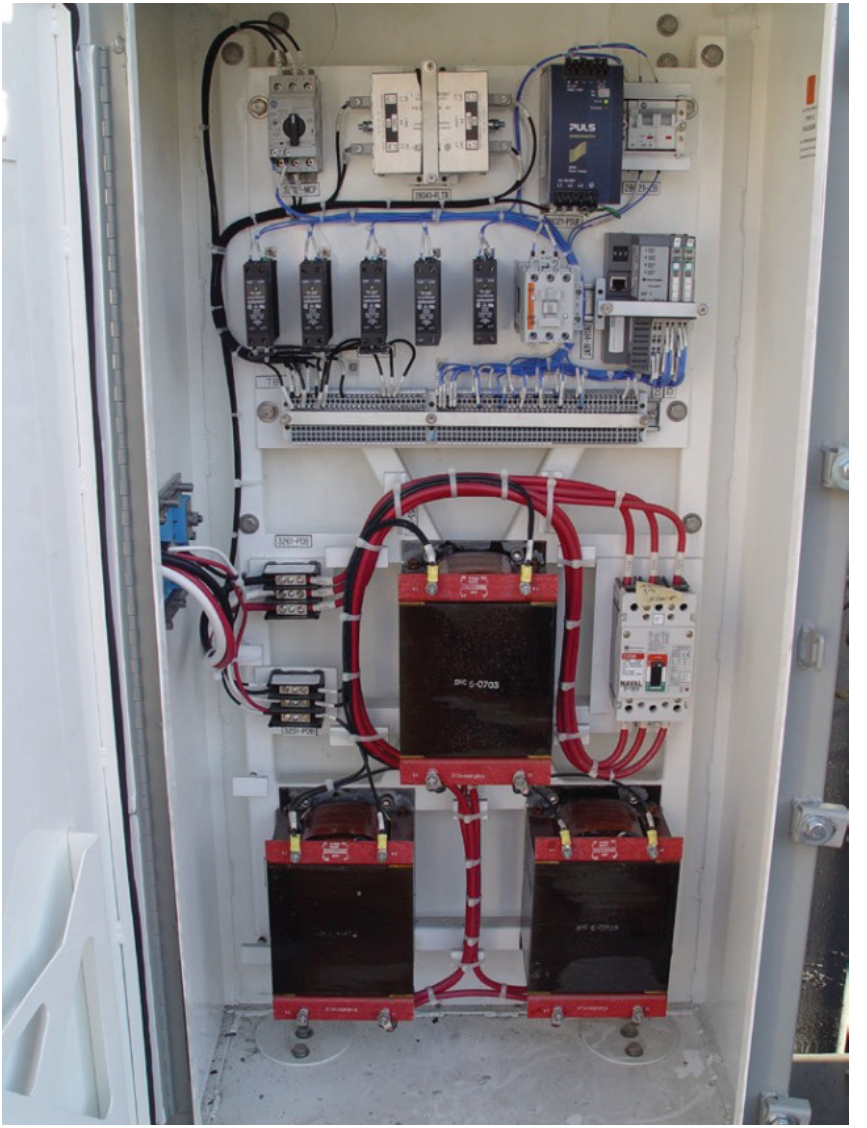
HUMAN MACHINE INTERFACE (HMI)

One of the more notable features on FEC's Advanced Weapons Elevator (AWE) system is the first fully qualified Human Machine Interface (HMI) Operator Stations. These unique panels are the first touchscreens implemented on an aircraft carrier that have successfully undergone all the exhaustive tests to meet EMI, shock, and vibration requirements necessary for use in a shipboard weapons system. The HMI provides a user-friendly multi-screen interface while allowing more panels and data to be displayed at multiple deck locations simultaneously in a much more compact space relative to traditional panels. The software-based HMI application also permits added flexibility, troubleshooting and maintenance capabilities.

Adaptable for use in other material and weapons handling systems, the HMI operator stations increase ship's force control and communication as well as system monitoring and diagnostics to maximize operational functionality and readiness.

CONTROL PANELS

Motor controllers, operator stations, power panels, disconnect switches/ panels, and junction boxes can all be furnished by FEC in accordance with the invoked electrical system specifications. FEC has significant experience with electrical enclosures of all kinds and can perform the electrical design, assembly and testing required to ensure our deck machinery meets the fit, form and function desired for Navy shipboard use.



Who We Are

Fairbanks Morse Defense (FMD) builds, maintains, and services the most trusted naval power and propulsion systems on the planet. For more than 100 years, FMD has been a principal supplier of a growing array of leading marine technologies, OEM parts, and turnkey services to the U.S. Navy, U.S. Coast Guard, Military Sealift Command, Canadian Coast Guard and now to the entire globe.

What We Do

Stacking the decks with best-in-class marine technologies and service solutions, Fairbanks Morse Defense delivers an advantage to the U.S. Fleet with a growing array of marine technologies, OEM parts, and turnkey services – all from a single, trusted source.

Vestdavit Overview

Vestdavit designs, supplies and supports tailor-made solutions for handling, launching and recovering manned and unmanned craft in difficult conditions at sea. Our range of systems and davits are the first choice of navies, coast guards, maritime law enforcement organizations, offshore energy vessel operators and demanding commercial users who need to be able to operate manned and unmanned craft safely from larger vessels.

Welin Lambie Overview

Originally traded as the Welin Davit & Engineering Co Ltd, the company was established in 1901 and operating as Welin Lambie Ltd since 1989. The Welin name is still associated with innovation quality and reliability with 90% of davit production exported word wide.

Welin Lambie's ISO 9001:2008 accreditation is both current and integrated into all facets of our design, engineering, and manufacturing. We are accredited under the ABS Approval Program and offer davit systems and davit components under all other major international recognized approval authorities.

Federal Equipment Co. Overview

Fairbanks Morse Defense (FMD) and Federal Equipment Company (FEC) are leading suppliers for marine deck machinery and specialized weapons and material handling systems. Through the years the company has emerged into an internationally recognized organization with extensive expertise in marine design/engineering and manufacturing of critical shipboard systems.

Our early projects dealt with re-engineering various deck machinery products with a focus on field service and parts. Over time, FEC has grown into a primary OEM, providing deck systems including elevators, conveyors, dumbwaiters, cranes, hoists, lifts, winches, doors, and more. Additionally, our global presence has demanded service teams capable of being anywhere to ensure our customers fast, efficient, and reliable services.

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