

Actuation, Lifting & Positioning Solutions for the Defence Industry

Land



Sea





Capability



OUR EXPERTISE HAS BEEN BUILT ON A HISTORY OF MORE THAN 100 YEARS OF ENGINEERING, CRAFTSMANSHIP, VISIONARY DESIGN, QUALITY MANUFACTURE AND CUSTOMER CARE.

Power Jacks is the leading UK manufacturer of electro-mechanical actuation, lifting and positioning solutions. It specialises in the design of bespoke systems for application in industrial automation, energy, defence, transport and civil engineering.

Headquartered near Aberdeen in the UK, the company is the UK's largest screw jack manufacturing facility, that uses the latest engineering technologies to deliver quality products (ISO 9001) that offer reliability, performance and economy.

Power Jacks deliver this high quality service in a safe (ISO 45001) and environmentally friendly (ISO14001) working environment thanks to the highly trained, flexible and motivated teams that work throughout the business driving the company to higher levels of performance.

We know our customers demand our engineering expertise to help find a solution for their applications. We take pride in designing and delivering the best solution using standard or special designs that help improve your business.

Our Vision is to become the partner of choice for our products globally.
Our Mission is to provide high quality precision actuation, lifting & positioning solutions.

Global Reach

UK HEADQUARTERS, 3 STRATEGIC SALES OFFICES & A NETWORK OF 25 DISTRIBUTORS WORLDWIDE PROVIDING AUTOMATION SOLUTIONS TO CUSTOMERS IN 80 COUNTRIES.



A global reach with a local service as we work closely with our customers to ensure the best solution for all their Electro-Mechanical solutions for defence applications.

Note: map for all industry sectors.

Engineered Solutions

WHEN THERE CAN BE NO COMPROMISE ON PERFORMANCE, QUALITY, RELIABILITY AND DURABILITY. TRUST POWER JACKS ENGINEERED SOLUTIONS FOR THE MOST DEMANDING DEFENCE APPLICATIONS.

Our linear motion and gearbox solutions are used in land and sea roles with each design engineered for specific operational applications. Our bespoke design service allows Power Jacks to provide standard product, customised product or start from scratch. Design features can include requirements such as light weight housings, auxiliary drives, high corrosion resistance, non-magnetic material, special gear ratios, low noise products, tailored interface & mounting arrangements and submersible options. Whatever the application, our innovative and experienced team of engineers will work with you to meet the challenge. Typical applications for our products are found on minesweepers, howitzers, tanks, armoured personnel carriers, submarines, ships, mobile & static communications, shelters, trucks, aircraft hangers, aircraft transportation vehicles and many more.

Self Propelled Gun



Multi Barrelled Rocket Launcher



Protected Patrol Vehicle



Light Weight Howitzer



Mine Sweeper



Missile Launch Platform



Vangaurd Class Submarine



QE Class Aircraft Carrier



Brandenburg Class Frigate



Air Surveillance Antenna



Expandable Shelter



Infantry Fighting Vehicle



Powering The Advance to All Electric Solutions

Our products have the advantage over hydraulics of improved performance, effectiveness, survivability and safety while at the same time lowering downtime and costs. Simple to install and easy to control our products support the move to fully electro-mechanical systems.

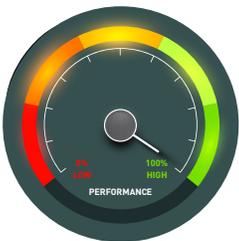
ADVANTAGES OF ELECTROMECHANICAL SYSTEMS:

- Simplified System Design
- Reduction in Number of System Components
- Lower System Weight
- Reduced Energy Consumption
- High Reliability
- Fast & Easy Installation
- Simplified & Low Maintenance
- Reduction in Operation & Lifetime Costs
- Reduced Fuel Costs
- No Hydraulic Fluid Leaks
- Increased Survivability
- Improved Personnel Safety
- Easy to Integrate to Control System
- Improved Uninterruptable Power Systems
- Excellent Long-Term Storage
- Better and More Data for System Analysis
- Long Term Viability Improved



REDUCED WEIGHT AND ENERGY CONSUMPTION

Electro-mechanical systems only require one energy conversion compared to two with a hydraulic system. This eliminates the weight of the components that do the second conversion (including hydraulic power pack, connections & fluid). Plus, electro-mechanical systems only consume power while being used (e.g. actuator holding load & position) compared to the continuous power drain of a hydraulic pump. The overall weight reduction also reduces the overall fuel costs.



IMPROVED PERFORMANCE THROUGH BETTER EFFECTIVENESS AND RELIABILITY

Integration with control systems is simpler and easier with electro-mechanical systems. Plus, their feedback devices increase the quantity and quality of data in real-time for precise and accurate control. This provides the vital data for on-board or remote diagnostic systems for simple and fast fault finding that can be continuously monitored. Far better than the indirect feedback data from hydraulic systems. By reducing the number of components in a system, electro-mechanical solutions simplify design, reduce the risk of system failure and improve reliability.



REDUCED INSTALLATION, DOWNTIME, MAINTENANCE & LIFETIME COSTS

The reduced number of components and complexity of an electro-mechanical system allows for faster and lower cost installation. This is also reflected in the maintenance costs due to fewer components, fewer wearing parts and the elimination of pressure drop issues. Personnel training and costs are simplified and reduced as only an electrical and mechanical skill set is required removing the need for the extra hydraulic skill set. All of this helps to keep the systems in service with minimal downtime and lower lifetime costs.



INCREASED SURVIVABILITY AND SAFETY

The elimination of the use of hydraulic fluid means the risk of hydraulic fluid leak is removed, improving both survivability and safety. Personnel health is improved as no risk of hydraulic fluid exposure via skin contact, eye contact, inhalation and ingestion. The electro-mechanical systems allow for simpler and reliable uninterruptable power and backup systems. Also the long term viability of a system is improved by using commercially available and proven technology that is designed to withstand harsh environments.

Proven Technology Engineered for Your Application



ELECTRIC LINEAR ACTUATORS

Precision electro-mechanical linear actuators ideal for elevation drive mechanisms, outriggers and automated handling systems. The actuators are tailored to your exact application needs with either a machine screw, ball screw or planetary roller screw drive and supplied with or without integrated electric motor and feedback devices. Proven in action on rocket launchers, howitzers, radar and ship



PLANETARY ROLLER SCREWS

Precision Spiracon Roller Screws for the ultimate in linear motion performance. These highly efficient designs have a high load carrying capability together with almost no axial backlash and high durability. Where you need the ultimate linear motion performance these roller screws deliver. Either integrated into one of our products or your assemblies.



SCREW JACKS

Screw Jacks tailored to meet each applications requirement with machine screw, ball screw or roller screw drive. Use as a single jack or in multiples as a jacking system to push, pull, tension, lock, unlock, tilt, pivot, roll, slide and lift or lower loads, anything from a few kilos to thousands of tonnes. These products provide very robust general purpose actuation, lifting and positioning solutions for static or mobile installations including howitzers, submarine reactors, vessel munition handling, aircraft production and patrol vehicles.



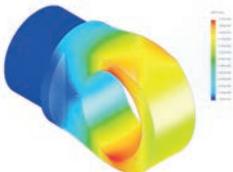
BEVEL GEARBOXES

Spiral bevel gearboxes with compact designs built for performance and efficiency in transmitting and distributing mechanical power. Available in 3 ranges and 6 sizes with 5 gear ratios. Everything including the housing shape can be customised to meet performance requirements. Ideal for drive mechanisms on tanks, SPGs, launchers and howitzers.



JACKING SYSTEMS

Multiple screw jacks connected together in systems, so they are operated and controlled in unison. These jacking system arrangements or configurations can be built in any format to suit your exact needs to move & position high loads or large areas/platforms for applications such as weapons handling, aircraft maintenance platforms and production systems.



DESIGN SUPPORT

For product or project development Power Jacks highly experienced team of design engineers are available to help you achieve the best solution for your application. Our speciality is in designs requiring mechanical or electro-mechanical linear or rotary motion solutions whether at a component part or complete system level.

All Arenas



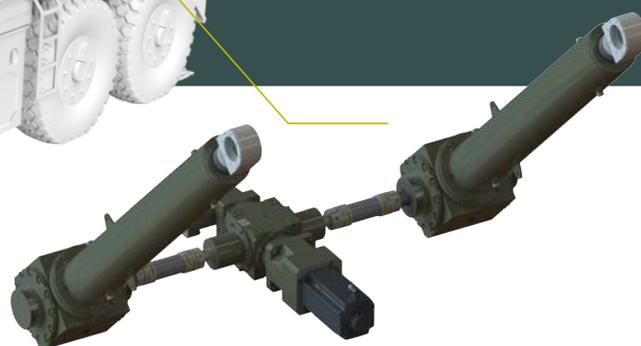
Item	Area	Description	Product
18	Main Battle Tank	Turret Stabilising & Positioning System	Linear Actuator
19	Main Battle Tank	Active Protection Systems	Bevel Gearbox
20	Infantry Fighting Vehicle	Door & Hatch Actuation Mechanism	Linear Actuator
21	Mobile Satcom & Radar	Elevation & Azimuth Positioning	Linear Actuator
22	Armoured Personnel Carrier	Door & Hatch Actuation Mechanism	Linear Actuator
23	Missile Launcher Systems	Elevation System	Linear Actuator, Bevel Gearbox
24	Missile Launcher Systems	Platform Stabiliser Legs	Linear Actuator
25	Explosive Ordnance Disposal Vehicle	Arm & Joint Actuation	Linear Actuator
26	Helicopter	Radar Elevation Positioning	Linear Actuator
27	Aircraft Access	Aircraft Cockpit Access Platform	Screw Jack
28	Aircraft Maintenance	Aircraft Maintenance Platforms	Screw Jack. Bevel Gearbox Jacking System
29	Aircraft Maintenance	Aircraft Undercarriage Lift	Screw Jack
30	Helicopter Transportation	Helicopter Lift System for Transport by Plane	Screw Jack
31	Aero Engine Transportation	Aero Engine Cradle Lifting System	Screw Jack
32	Vehicle Mounted Radar / Antenna	Deployment and Positioning Systems	Linear Actuator
33	Vehicle Mounted Radar / Antenna	Platform Stabiliser Legs	Linear Actuator
34	Missile Testing	Missile Simulator Pitch, Yaw & Roll Actuation	Linear Actuator
35	Aircraft Production	Fighter Wing Assembly	Screw Jack
36	Aircraft Production	Nose Cone Assembly	Screw Jack

Elevation Systems



Precision elevation systems for all land based vehicles or installation requiring the raising, lowering and positioning of:

- Launch platforms
- Radar units
- Communication antenna



The complete drive system from the motor through to the electric linear actuator available for exact vehicle performance requirements. Single or multi actuator systems available with mechanical drive system incorporating automated and/or manual backup drive.

ELECTRO-MECHANICAL

- Weapons system deployment
- Payload Positioning
- Antenna / Radar actuation
- Antenna / Radar folding mechanism including those for ISO containers



ELEVATION LINEAR ACTUATOR

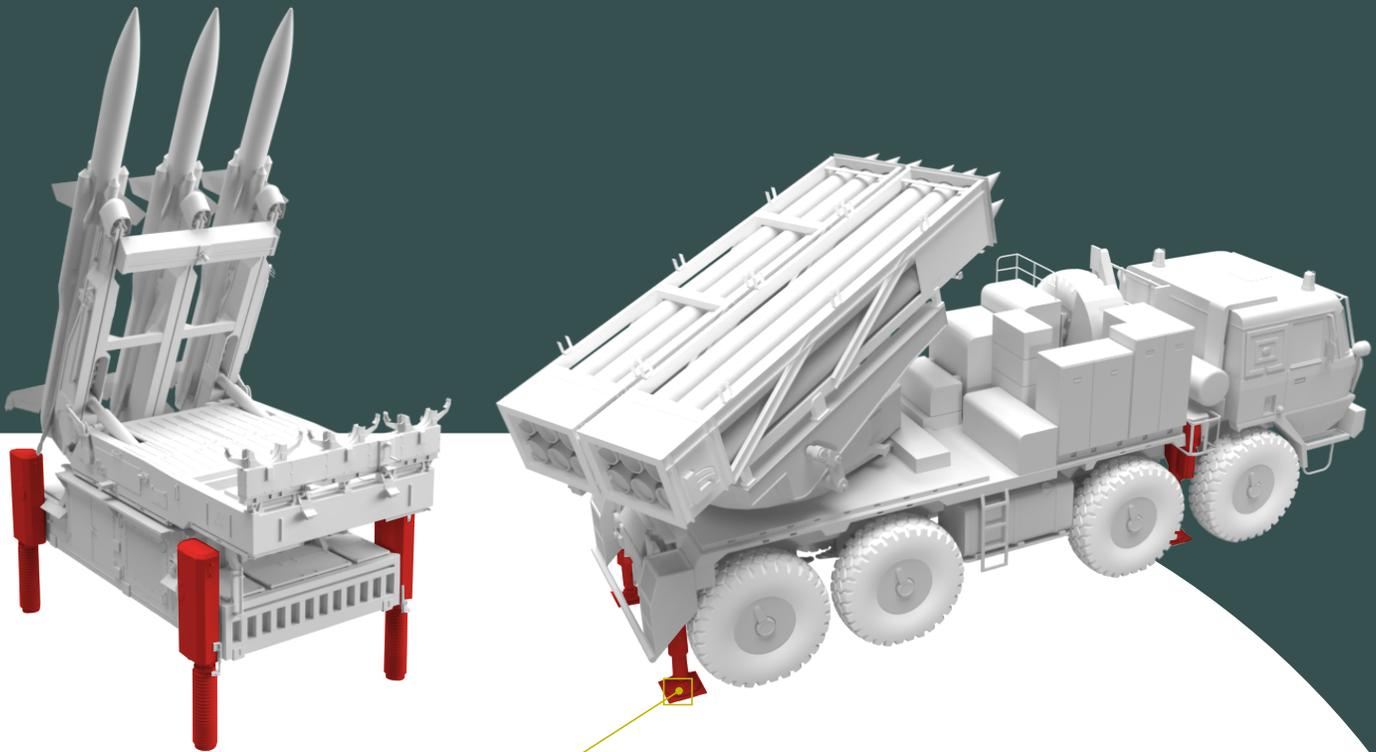
- Models with capacities up to 1000kN
- Stroke up to 5m
- Linear Speed up to 20m/min
- Precision roller screw drive
- Multiple mounting options for each end

ELEVATION DRIVE GEARBOX

- Designs with Torque up to 7000Nm
- Solid or Hollow Shaft in 2, 3 or 4-way
- Rotary Speed up to 3000 rpm
- Mounting options on all 6 gearbox sides
- Main and auxiliary drives



Outrigger Systems



Fast deployment of platform support legs or vehicle stabilising legs using all electric systems.

QUICKLY DEPLOY PLATFORMS

- Missile systems
- Gun turret
- Antenna
- Radar

STABILISE AND LEVEL

- Vehicles
- Trailer systems

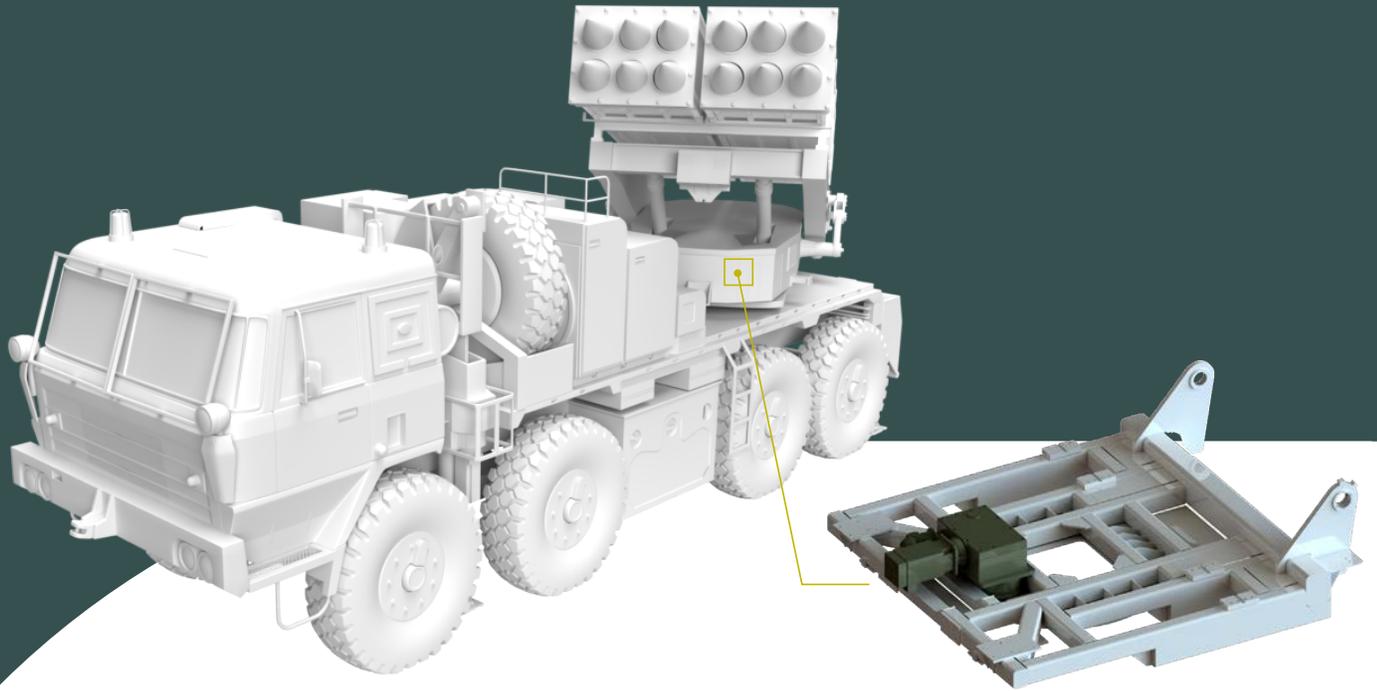
Designs available with static load ratings up to 1000kN and dynamic load ratings up to 500kN

Each outrigger leg actuator has the following features:

- Robust & reliable roller screw actuation
- Integrated electric motor
- Parallel or right angled motor drive
- Backup motor and/or manual drive
- Integrated speed and position feedback.
- Mount to the chassis with side or end mounting
- Self-aligning swivel foot



Azimuth Systems



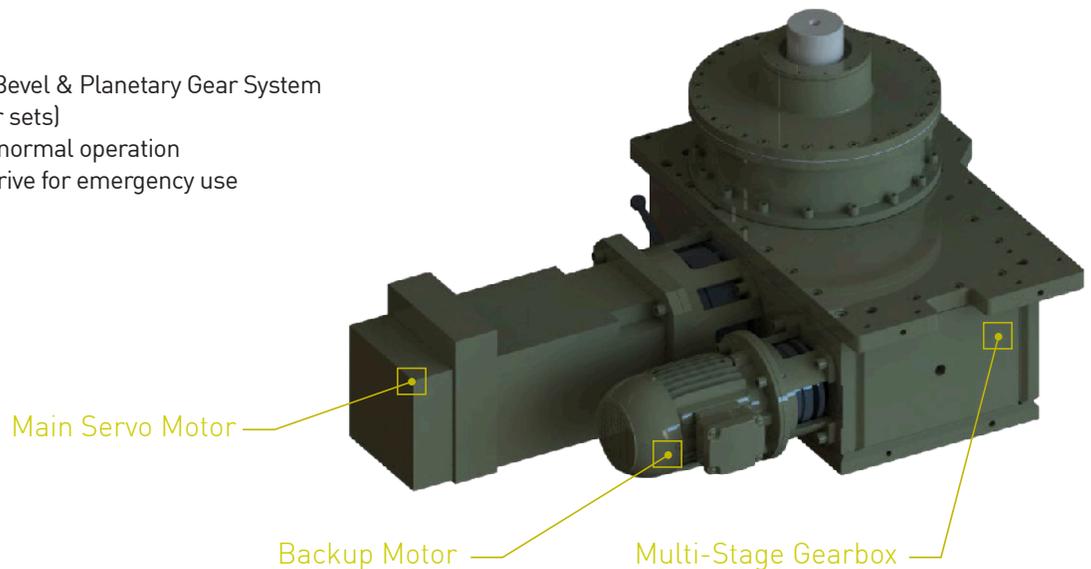
Precision drive for azimuth rotation systems (traverse) for all land based vehicles or installations:

- Launch platforms
- Radar units
- Communication antenna
- Turret / Gun systems

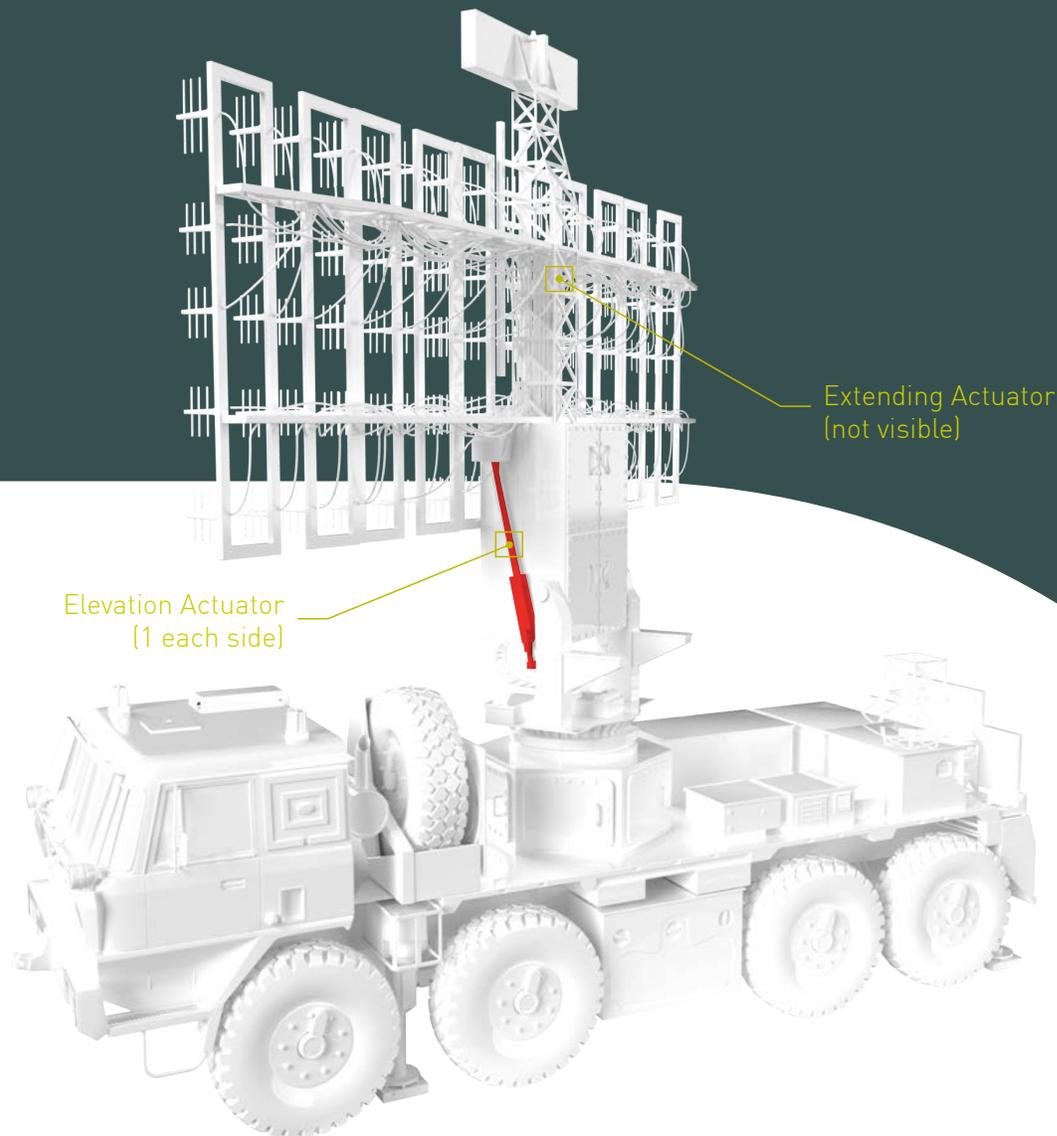
The complete drive system from the motor through to the pinion shaft for the slewing gear arrangement. This precision multi-stage gear drive has two integrated systems a main drive and a backup drive each with their own gear set and motor.

AZIMUTH GEARBOX

- Multi-Stage Helical Bevel & Planetary Gear System (main & backup gear sets)
- Main servo drive for normal operation
- Backup motor and drive for emergency use



VHF Radar Deployment

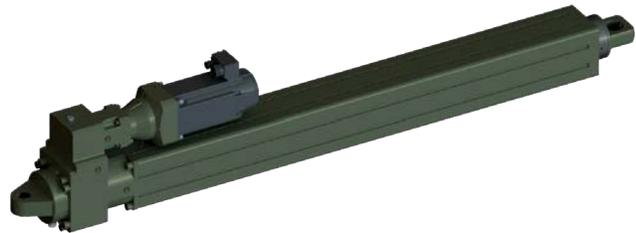


Deployment systems for all land-based vehicles or installation requiring the unfolding and positioning of:

- Radar units
- Communication antenna

ELEVATION LINEAR ACTUATOR

- Models with capacities up to 200kN
- Stroke up to 3m
- Linear Speed up to 10m/min
- Precision roller screw drive
- Multiple mounting options for each end



EXTENDING LINEAR ACTUATOR

- Models with capacities up to 200kN
- Stroke up to 2m
- Linear Speed up to 5m/min
- Precision roller screw drive
- Multiple mounting options for each end

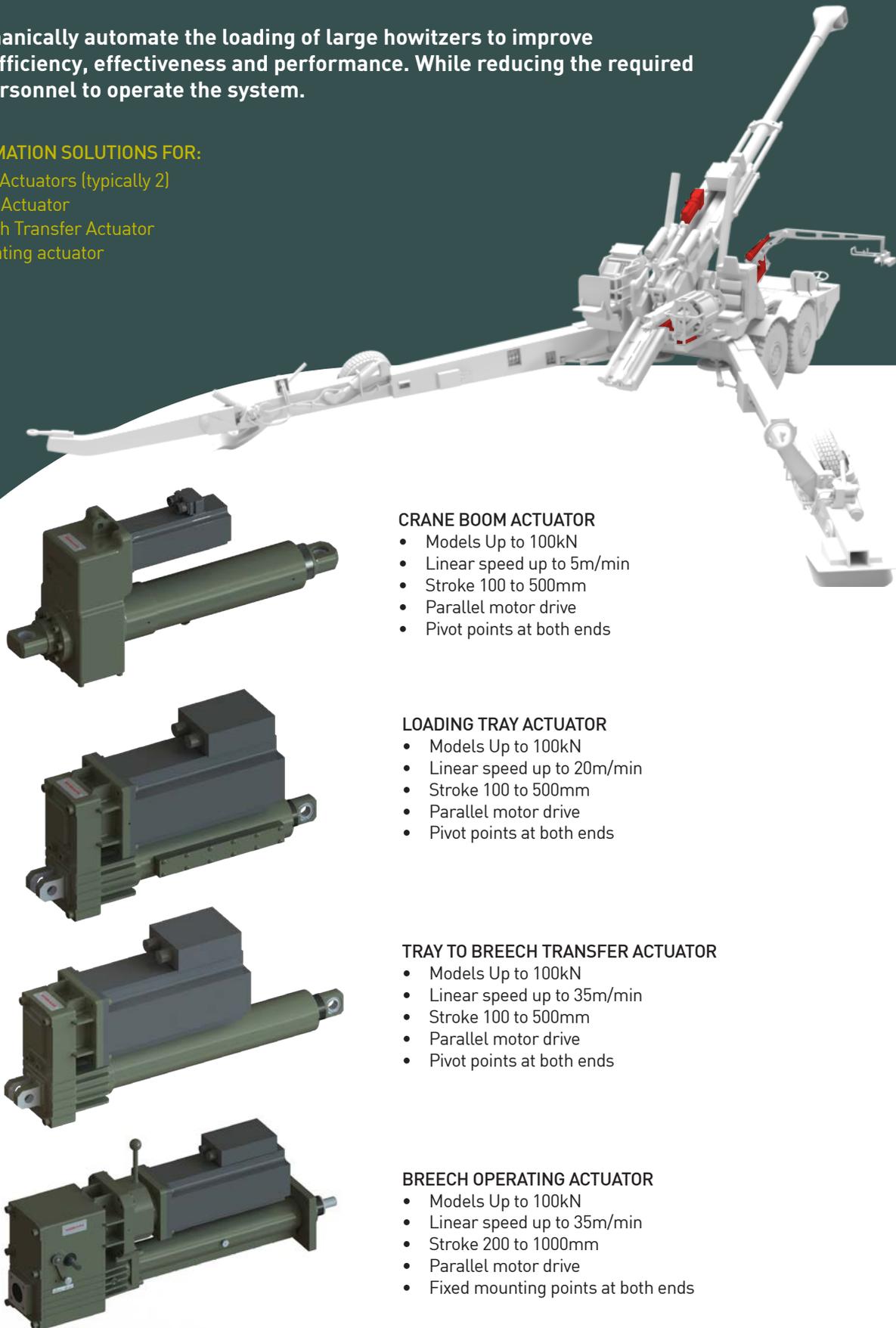


Howitzer Loading Automation

Electro-mechanically automate the loading of large howitzers to improve operational efficiency, effectiveness and performance. While reducing the required number of personnel to operate the system.

LOADING AUTOMATION SOLUTIONS FOR:

- Crane Boom Actuators (typically 2)
- Loading Tray Actuator
- Tray to Breech Transfer Actuator
- Breech operating actuator



CRANE BOOM ACTUATOR

- Models Up to 100kN
- Linear speed up to 5m/min
- Stroke 100 to 500mm
- Parallel motor drive
- Pivot points at both ends

LOADING TRAY ACTUATOR

- Models Up to 100kN
- Linear speed up to 20m/min
- Stroke 100 to 500mm
- Parallel motor drive
- Pivot points at both ends

TRAY TO BREECH TRANSFER ACTUATOR

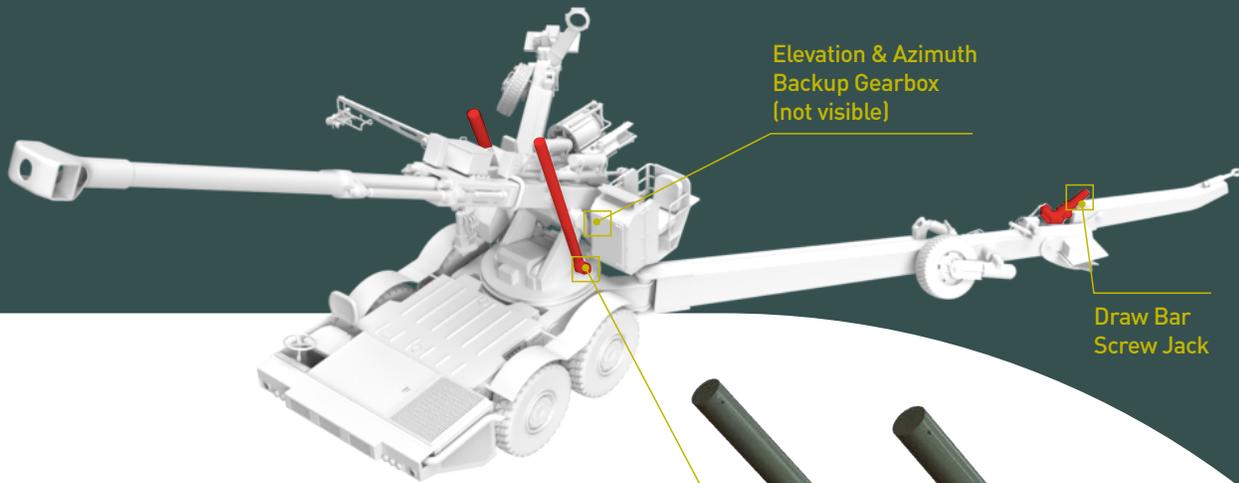
- Models Up to 100kN
- Linear speed up to 35m/min
- Stroke 100 to 500mm
- Parallel motor drive
- Pivot points at both ends

BREECH OPERATING ACTUATOR

- Models Up to 100kN
- Linear speed up to 35m/min
- Stroke 200 to 1000mm
- Parallel motor drive
- Fixed mounting points at both ends

Howitzer Positioning Automation

Automated positioning of howitzer barrel using precision electric linear actuators and gearbox drive systems. Ideal for integrated computer controlled targeting systems, while delivering improved operational efficiency, effectiveness and performance.



POSITIONING AUTOMATION SOLUTIONS FOR:

- Elevation Actuators
- Elevation Gearbox (4-way)
- Backup Manual Elevation & Azimuth Drive Gearbox
- Draw Bar Screw Jack

ELEVATION ACTUATOR

- Models Up to 300kN
- Linear speed up to 10m/min
- Stroke 1000 to 2000mm
- Drive integrated with trunnion pivot point
- Offset trunnion mount on ram

ELEVATION GEARBOX

- Models with Torque up to 2000Nm
- Speed up to 3000 rpm
- Integrated motor drive
- Mounting available on all 6 sides

ELEVATION & AZIMUTH BACKUP GEARBOX

- Engage & disengage drive
- Elevation & Azimuth drive selection
- Integrated hand wheel drive
- Bespoke design for each system

DRAW BAR SCREW JACK

- Models Up to 1000kN
- Linear speed up to 35m/min
- Stroke 100 to 500mm
- Integrated right angle motor drive
- Clevis to trunnion mount



Light Weight Howitzer Positioning

For light weight highly mobile howitzers Power Jacks provide ultra-compact and lightweight bevel gearboxes for both elevation and traverse drives.

GEARBOXES DESIGN FEATURES

- Ultra Compact
- Light Weight
- Special Gear Sets

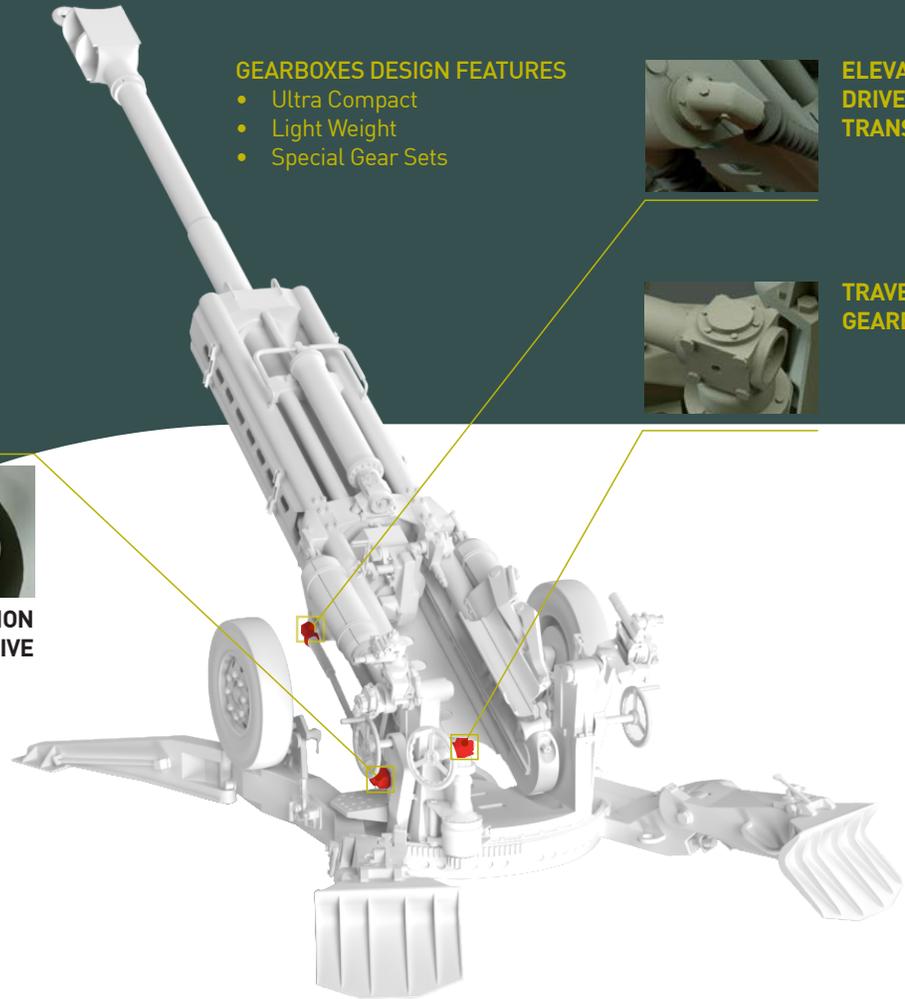
ELEVATION DRIVE TRANSFER



TRAVERSE GEARBOX



ELEVATION MAIN DRIVE



ELEVATION MAIN DRIVE

- N035, 3-way solid & hollow shaft
- Input shaft with special solid drive end
- Auxiliary hollow shaft input



ELEVATION DRIVE TRANSFER

- N035, 2-way solid shaft
- Curved gearbox housing
- Integrated output flange mounting
- Special input shaft



TRAVERSE DRIVE ORIENTATION GEARBOX

- N035, 2-way solid shaft
- Special mounting flange
- Special input housing and drive shaft

SPG Munition Handling

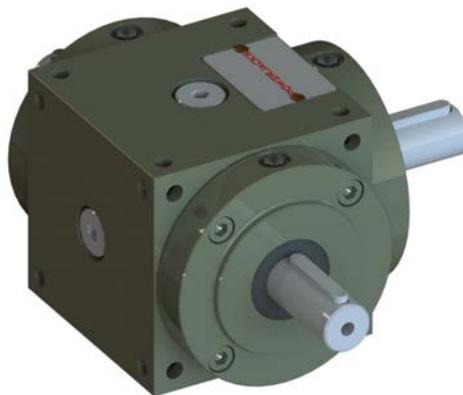
Power Jacks range of bevel gearboxes provide an ideal drive for automated munition handling systems inside self-propelled guns (SPG).

Typically working in pairs on each munitions rack within the SPG the gearboxes provide drive to ensure the crew have quick access to the next shell.



MUNITIONS RACK DRIVE

- Size C035
- 3-way solid shaft
- Precision bevel gear set



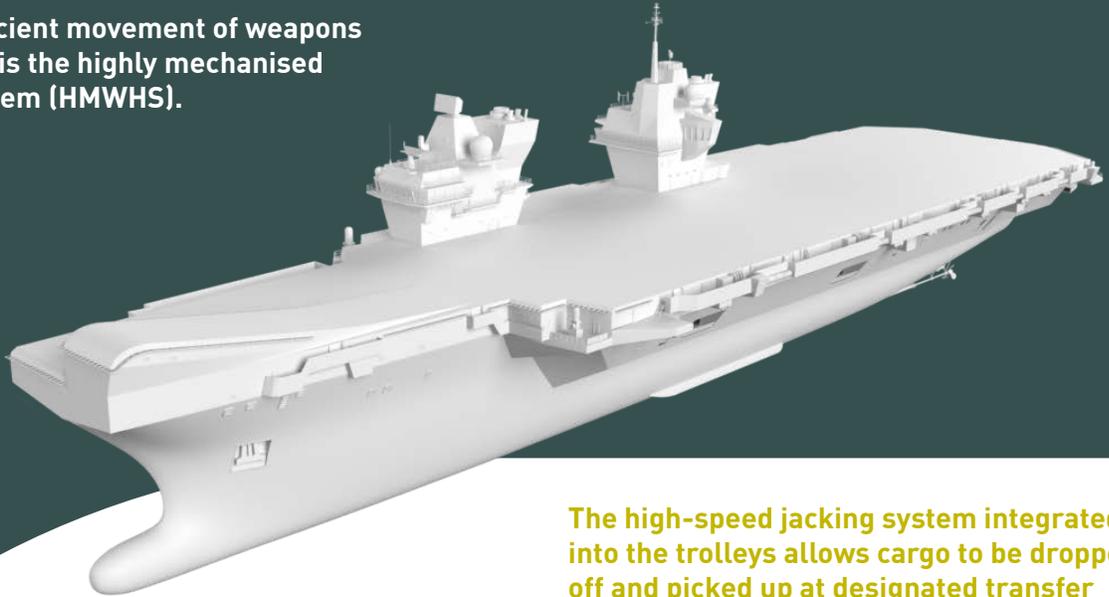
OTHER AVAILABLE FEATURES TO SUIT SPECIFIC AUTOMATION SYSTEMS INCLUDE:

- Alternative housing profiles
- Mounting flanges
- Hollow shaft options
- 2 and 4 way shaft configurations
- Integrated motor adapter
- Brake and clutch integration options
- Drive shaft extensions and profile customisation

Weapons Handling Systems

Key to the fast and efficient movement of weapons from stores to loading is the highly mechanised weapons handling system (HMWHS).

Power Jacks provide specialist lifting platform mechanisms for powered handlers or trolleys that are designed to carry munition pallets to and from the weapons lifts.



The high-speed jacking system integrated into the trolleys allows cargo to be dropped off and picked up at designated transfer points on the rail system.

At the transfer points in bays or lift shafts Power Jacks also provide the high-speed locks that secure the trolley and central drive rack in place. For locking the moveable drive rack at lift shaft points a low profile electric linear actuator is used so the trolley can pass over the top. At trolley transition points the trolley is locked in place using a motorised screw jack.



TROLLEY HIGH SPEED JACKING SYSTEM

- Ball Screw Jacks – 25kN to 200kN, typically 100 to 300mm stroke
- Bevel Gearboxes – 2, 3 or 4-way up to 7000Nm with or without motor adaptor flange
- Drive shafts – standard or self supporting
- Couplings and drive shaft supports
- Electric motor



RACK LOCKING MECHANISM

- Rolaram High Speed Ball Screw Actuator
- Dynamic load 5kN – 100kN
- Stroke: 100 – 500mm
- Integrated electric motor with brake



TROLLEY POSITION LOCK

- High Speed Ball Screw Jack 25kN – 100kN
- Stroke 50 – 200mm
- Integrated electric motor with brake

Radar / Antenna Positioning

For ground station satellite communication, radar or antenna positioning Power Jacks electro-mechanical actuators provide an ideal solution for both elevation and azimuth positioning.

- **Precise positioning**
- **Low axial backlash**
- **Accommodate fluctuating loads**
- **Fast Slew movements**
- **Slow Tracking movements**
- **Operate in arduous conditions**

Dish sizes up to 20m in diameter can be accommodated.

SMALL DISH UP TO Ø3M

- Integrated Elevation & Azimuth Drives.
- Elevation tilting +/- 30°
- Azimuth Rotation 360°
- Double shaft input for both elevation & azimuth drives.
- Flange mounting for antenna / dish.
- Base Flange mounting.



SMALL TO MEDIUM DISH UP TO Ø10M

- Up to 500kN axial load
- Linear speed 5 to 500mm/min
- Stroke 1000 to 2000mm
- Parallel mount motor with or without backup drive.
- Trunnion mount at gearbox or along actuator body.
- Clevis or fork end on ram.

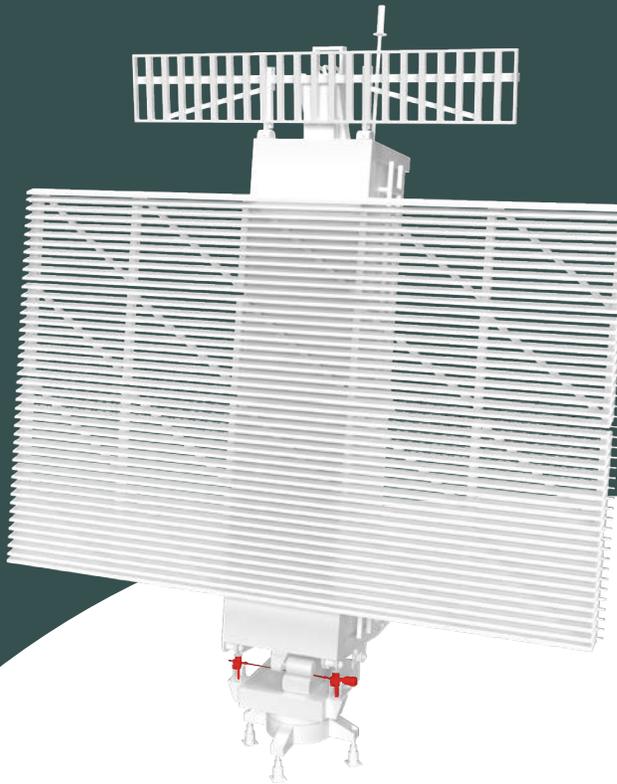


MEDIUM TO LARGE DISH UP TO Ø20M

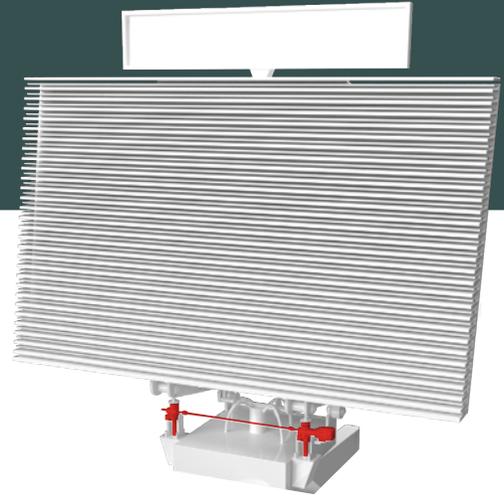
- Up to 2000kN axial load
- Linear speed 3 to 300mm/min
- Stroke 1000 to 4000mm
- Right angle mount motor with or without backup drive.
- Trunnion mount at gearbox.
- Clevis or fork end on ram.



3D Radar Positioning



Long Range Land Transportable Radar



Naval Radar

3D Radar tilting system available with or without motor drive. Provides precision tilting of the radar unit for land or naval systems.

- Transportable 3D Radar
- Mobile Trailer Mounted 3D Radar
- Mobile Truck Mounted 3D Radar
- Navy vessel mounted

The complete drive system from the motor through to the pinion shaft for the slewing gear arrangement. This precision multi-stage gear drive has two integrated systems a main drive and a backup drive each with their own gear set and motor.

LANDING LEG (OUTRIGGER LEG) SOLUTIONS ALSO AVAILABLE FOR LAND BASED MOBILE RADAR SYSTEMS

SCREW JACK SYSTEM

- Machine Screw Jacks 10kN to 200kN nominal capacity
- Stroke typically 200 - 500mm
- Linear Speed up to 1m/min
- Precision machine screw drive
- Clevis End Fitting for lifting screw
- Trunnion base mount
- Other mounting options available.
- With or without drive motor mounted to screw jack.
- Drive shaft and couplings.

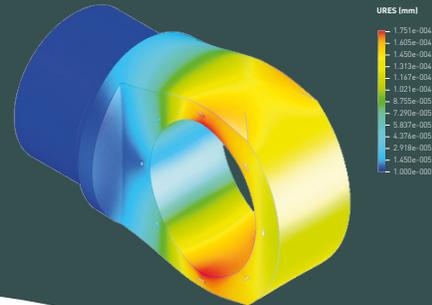


Design with Power

Our speciality is in the design and manufacture of mechanical or electro-mechanical linear or rotary motion solutions at either a component part or complete system level.

Our bespoke design service can provide solutions based on:

- Customised Standard Products
- Modified Standard Products
- Products with New Components
- Completely New Products Designed from Scratch



Each of our design solutions for a defence application generally contain either some bespoke design features or are a complete unique design solution engineered for a specific operational role



For the design process Power Jacks has a highly experienced team of design engineers to help you achieve the best solution for your application.

Our team, based at our factory in Scotland, works at both design and project levels to provide you with a smooth and efficient development process.

This includes direct contact with our engineering team at an engineer level for normal correspondence, in person meetings and video calls. The personal engineer to engineer contact and relationship is an element that our clients find very beneficial. As our team have in-depth experience in both industrial and defence sectors. They have situation awareness for defence application requirements, while also being able to identify beneficial technology transference from other industry sectors.

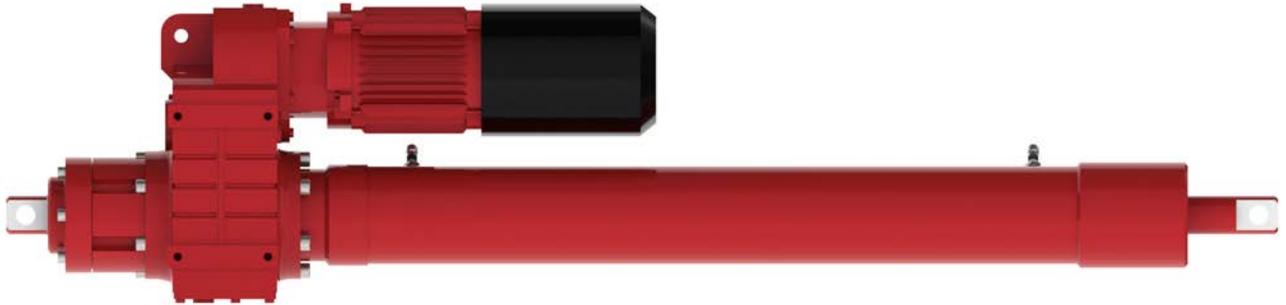
Design features can include requirements such as (but not limited to):

- Light weight housings
- Auxiliary drives
- High corrosion resistance
- Non-magnetic material
- Special gear ratios
- Low noise products
- Bespoke interfaces
- Custom mounting arrangements
- High shock load rated units
- Extended low & high temperature ranges
- Reduced or zero backlash
- Submersible options

Whatever your next defence application, our innovative and experienced team of engineers will work with you to meet the challenge.

Linear Actuators & Roller Screws

Designed to deliver strength, reliability, durability and high performance. Our electro-mechanical linear actuators are ideally suited to operate in the toughest defence arenas, anywhere in the world.



ROLARAM LINEAR ACTUATOR PERFORMANCE & FEATURE OVERVIEW

- Capacities: Up to 1000kN (100Te) dynamic
- Stroke: Up to 5m
- Linear Speed: Up to 50m/min
- Smooth, precise movement using machine screw, ball screw or roller screw drive.
- With or Without Integrated Electric Motor Drive.
- Input drive available parallel, right angle or in-line to actuators ram.
- Large range of gearbox solutions to suit each application requirements.
- Electric motor option mounted parallel, right angle or in-line to actuators ram.
- Back up motor or hand operated options.
- Optimised for Reliability, Durability & Maintainability
- Self-locking options.
- Feedback devices for position and speed.
- Ram End Mounting options: Flange, Clevis End, Fork End, Threaded End.
- Gearbox End Mounting options: Flange, Clevis End, Fork End, Trunnion Mounts.
- Safety system options including Single or Dual brakes and Clutches.
- Wide Temperature Range Suitability from Arctic to Desert climates.
- Enclosure Rating: IP55, IP56, IP66 or IP67
- Wide choice of corrosion protection options including stainless steel.
- Plug-In connectors available for motor and feedback devices.
- Option for automatic lubrication systems.
- Load monitoring options available (cabled & wireless).
- Extensive range of materials available to suit application requirements.
- Finished in a colour and paint system of your choice.



ROLLER SCREWS

We design and manufacture precision planetary roller screws. Ideal for high load, high duty, precision application in arduous environments. Compared to ball screws, planetary roller screws have a higher dynamic load capacity for a given size and are a far more robust linear motion solution for defence applications.

- Capacity up to 1800kN
- Length up to 6m
- Diameters from 15 to 120mm
- Right and left hand threads
- Special screw diameters, pitch and lead
- Special screw end machining or nut mounting.

Screws Jacks



SCREW JACKS

As a leader in the manufacture of mechanical screw jacks, and with over two million products in the field, we guarantee quality, reliability, performance and value.

Our screw jacks come in a variety of series designed to meet the challenges of any application.

They range from the classic single face screw jack, one of the most widely used and popular screw jacks worldwide and proven in the most demanding linear motion applications, to our high performance screw jack that meet the ever-growing demands placed upon our products.

E-SERIES Machine Screw



- Single Face Design
- Capacities 5kN to 3500kN
- Translating & Rotating Screw
- Upright & Inverted types
- Anti-Backlash version
- Anti-Rotation (Keyed) version
- Safety Nut version
- 6 mounting options including trunnion & double clevis
- Limit switches & other feedback devices
- Customise to suit your exact application

E-SERIES Ball Screw



- Single Face Design
- Capacities 10kN to 500kN
- Translating & Rotating Screw
- Upright & Inverted types
- Zero-Backlash version
- Anti-Rotation version
- Integral Safety Device in Ball Nut
- 6 mounting options including trunnion & double clevis
- Limit switches & other feedback devices
- Customise to suit your exact application

E-SERIES Stainless Steel



- Single Face Design
- Capacities 10kN to 1000kN
- Translating & Rotating Screw
- Upright & Inverted types
- Anti-Backlash version
- Anti-Rotation (Keyed) version
- Safety Nut version
- 6 mounting options including trunnion & double clevis
- Limit switches & other feedback devices
- Customise to suit your exact application

C-SERIES



- Cubic Design
- Machine Screw Jack
- Capacities 10kN to 100kN
- Translating & Rotating Screw Configurations
- Anti-Backlash version
- Anti-Rotation (Keyed) version
- Safety Nut version
- 6 mounting options including trunnion & double clevis
- Limit switches & other feedback devices
- Customise to suit your exact application

U-SERIES



- Subsea Screw Jack
- Single Face Design
- Capacities 25kN to 1000kN
- Pressure Compensated or Flooded Designs
- 3000m Depth Rating
- Translating & Rotating Screw in Upright & Inverted types
- Full Stainless Steel as standard
- Anti-Backlash version
- Anti-Rotation (keyed) version
- Extensive options including ROV adapters
- Customise to suit your exact application

ROLLER SCREW JACKS



- High Performance Screw Jack
- Capacities 25kN to 1200kN
- Translating & Rotating Screw
- Cubic, Single Face or Custom gearbox design.
- High precision & repeatability
- High speed
- High dynamic load capacity
- High duty
- High efficiency
- Long life & low maintenance
- Customise to suit your exact application

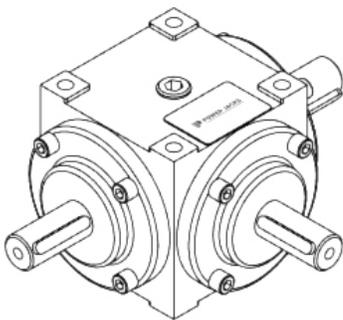
Bevel Gearboxes



Bevel gearboxes in compact designs built for performance and efficiency in transmitting and distributing mechanical power. Available in 3 ranges and 6 sizes with 5 gear ratios. The standard designs are suitable for a wide range of applications, however they are all fully customisable to suit all defence applications in land or sea operations.

BEVEL GEARBOX PERFORMANCE & FEATURE OVERVIEW

- Range-C – Cubic Compact Gearboxes with 6 Side Mounting
- Range-N – Ultra Compact Gearboxes with 2 Side Mounting
- Range-U – Subsea Gearboxes to Depths of 3000m as Standard
- 2-way, 3-way & 4-way Configurations
- Solid Shaft & Hollow Shaft
- Gear Ratios: 1:1, 1.5:1, 2:1, 3:1 & 4:1
- Precision Spiral Bevel Gears.
- Torque Ratings up to 7000Nm as Standard and 20000Nm on request.
- 6 Gearbox sizes & 14 Configurations per size as Standard.
- Robust SG Iron Housing as Standard.
- Full Stainless Steel Design Available.
- Low weight Aluminium design available.
- Drive shaft diameters, length and shape can be customised.
- Plug-In Motor Adapter Available
- Subsea ROV Drive Interfaces Available
- Speed and position feedback device integration.
- Special Custom Designs Available
- Special Gear Ratios Available



"PROVEN TECHNOLOGY ENGINEERED FOR YOUR APPLICATION"

Jacking Systems

Screw jacks can be connected together in systems so that multiple units are operated and controlled in unison. These jacking system arrangements or configurations can be built in many formats with the use of bevel gearboxes, motors, reduction gearboxes, drive shafts, couplings, plummer blocks and motion control devices.

Jacking Systems have 2 main features:

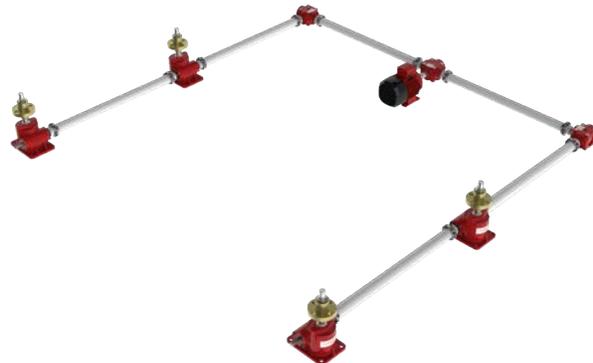
1. They allow for the movement of large loads driven by a single motor
e.g. 4 x EMT1000 screw jacks arranged in a screw jack system could move a load of 400 Te (4000kN).
2. Support loads evenly over a relatively large surface area. e.g. 20Te load over a 24m² area using four screw jacks with 6m x 4m centre spacing.

Four of the most popular jacking system configurations are the 'H', 'U', "T" and "I" arrangements.

H-CONFIGURATION



U-CONFIGURATION



T-CONFIGURATION



I-CONFIGURATION



Note that multiple screw jacks can be linked together mechanically or electrically. The latter is useful if there is no space for linking drive shafts.

Jacking systems are not limited to the number of screw jacks shown here. They are regularly supplied to clients with 2, 4, 6, 8 jack systems. Larger systems can extend up to 16 or higher. With the use of electronic synchronisation/control multiple systems or screw jacks can be used in unison. Extending the possible number of screw jacks used in unison to in excess of 100.

POWERJACKS

PRECISION ACTUATION

Power Jacks specialises in the design and manufacture of precision linear actuation, positioning and lifting equipment.

Our products are supplied globally across many sectors including Industrial Automation, Energy, Transport, Defence and Civil.

POWERJACKS

PRECISION ACTUATION

Power Jacks Ltd
Kingshill Commercial Park
Prospect Road, Westhill
Aberdeenshire AB32 6FP
Scotland (UK)
Tel: +44 (0)1224 968968

www.powerjacks.com
sales@powerjacks.com

POWERJACKS-USA

PRECISION ACTUATION

Power Jacks USA LLC
6500 Chase Road
Dearborn
MI 48126
USA
Tel: +1 248 510 2837

www.powerjacksusa.com
sales@powerjacksusa.com

PJB-IND-DLSA-US-06a

