

SERAPID
RIGID CHAIN TECHNOLOGY

LOADING & LIFTING SOLUTIONS FOR THE DEFENCE INDUSTRY

Bespoke systems for every environment



SERAPID IS A WORLD LEADER IN SOLUTIONS FOR THE SAFE HANDLING OF HEAVY LOADS

Our core technology is the Rigid Chain, the chain that can push. It consists of interlocking links that behave like a chain yet lock like a rigid bar, providing a safe, reliable and compact actuation mechanism with unequalled performance in every environment.

SERAPID was founded in 1972, and we have built our reputation by providing innovative solutions to challenging projects. More than four decades of engineering expertise combined with our unique technology allows us to deliver exceptional results for the most complex projects.

SERAPID systems provide precise positioning, high load capacities, outstanding stability, telescopic capabilities, resistance to harsh environments, and field-tested reliability.



Common Remotely Operating Weapons System (CROWS)



Weapon station

Perimeter protection is facilitated using a shipping container to house a weapons mast able to extend to heights of 4 metres or more. Similar to the “CROWS” unit, stationary when in use but easily transported to different locations. The system, including SERAPID TRIMAST, is able to withstand extreme environments, requires minimal maintenance, enables soldiers to operate weapons from a protected location and, most importantly, provide the stability necessary both for operating the technical surveillance systems and handling precision weapons fire. These systems provide a high level of protection for troops inside the wire or to help in providing cover for those on patrol. Instead of guard towers or snipers which can provide an effective cover of about 400 metres, these units are effective to approximately 1,400 metres from the outpost with the benefit of being remotely operated.

Missile loader

The telescopic system push/pull chain for a new concept in loading missile batteries in preparation for launch. In this new turnkey concept, a loading table was built to hold the battery in a horizontal position. This table moves side to side and up and down. A telescopic push/pull rod, employing the rigid chain, is built into a separate loader unit.

In operation, loading begins by having the canister table in a lowered position so that the upper row of pods is level with the rigid chain loader. SERAPID’s telescopic chain extends 20+ft/6 m through the pod and is connected to a missile. The loader unit pulls the missile into the upper right pod.

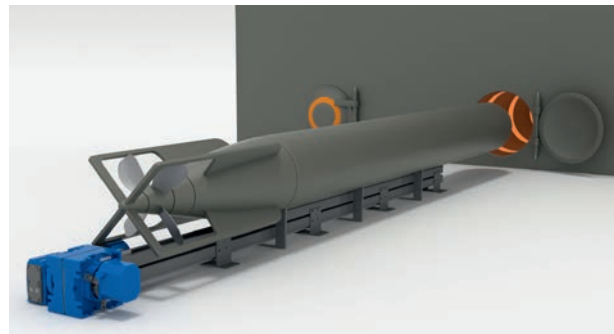
The table then shifts to the right in order to position the upper left pod for loading. After loading this pod, the table is then raised to position the bottom row of pods for loading, reversing the side-to-side action.



Embedded system for missile loader

Ammunition transport lift

SERAPID RollBeams are used for an horizontal transfer of torpedos, vertical conveyor system that moves ammunition from the lower deck to the deck above. Using no hydraulics, the system is compact, fluid-less, low maintenance and electromechanically operated. The chain provides precise positioning and is treated for resistance to salt water. When retracted, the chain is stored in a magazine made of aluminum and plastic.



Conveyor system for torpedo in submarine



Tripod - Latécoère Services for Airbus, France



Ergonomic assembly equipment

This equipment, made for the Airbus assembly line, allows the assembly of large circular parts located at the level of the reactors.

The presence of operators around this tooling requires a high degree of safety. Similarly, the annular shape of the aircraft part required a particular geometry of the equipment, thus limiting the available space to integrate the lifting mechanism for the circular platform. The productivity of the assembly line is based on the high availability of this equipment. Our products were perfectly suited to meet the demanding requirements of this machine.

The use of Telescopic High Load LinkLift columns has made it possible to design a compact, secure and very reliable piece of equipment.

RollBeam & LinearBeam

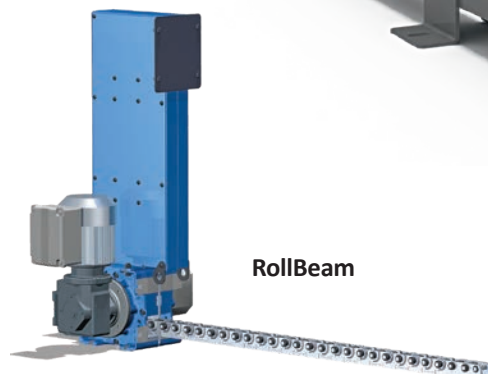
Push-Pull horizontal movement

The RollBeam and LinearBeam range of linear-actuator systems represents the most universal application of SERAPID's widely used and proven Rigid Chain Technology.

Standard models cover applications up to 50 tons at a practically unlimited stroke. Special versions allow for operation in harsh environments. The RollBeam features telescopic functionality while the LinearBeam features heavy load and high speed functionality. Both can be used either vertically or horizontally.



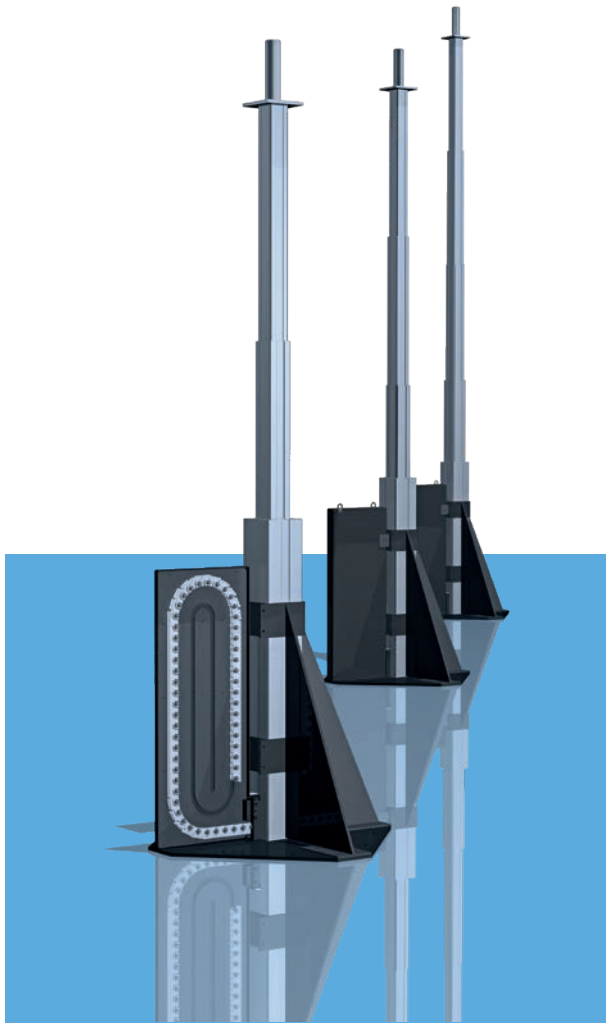
LinearBeam



RollBeam

The LinkLift - High stability

SERAPID LinkLift actuators prove their performance capabilities in the toughest environments. Our complete range of models allow solutions to match your exact requirements. The standard range goes up to 15 tons of dynamic load per lift column, and up to 8m lifting height. Simple modifications allow heights up to 20m. The links are block-shaped with square cross-sections, and the centre of gravity is right in the geometric centre. When aligned and interlocked with each other, they form a lifting column of high stability and rigidity.



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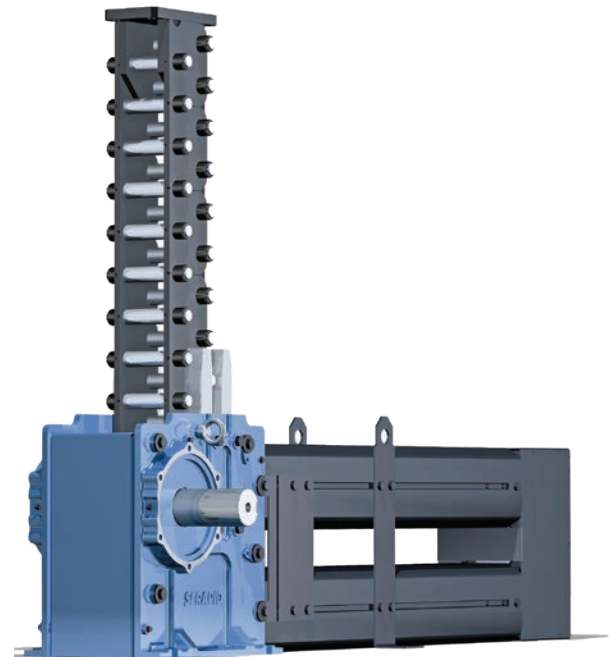
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Telescopic Mast

Reliable, stable and easy to use

Telescopic Mast has been designed for unsurpassed stability under all conditions. In addition to the unique push-pull characteristics of the Rigid Chain - the backbone of the system - there are multiple engineered elements, such as intermediate guides and snug-fitting pad bearings, that ensure safe and reliable lifting. This gives the lift column a high static load capacity allowing it to remain stable while holding a load in position for indefinite periods. The mast is readily programmed for precise, incremental and repeatable movement for raising or lowering the load.

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