



VERTICAL **LINEAR**BEAM

2025 EDITION

Revolutionising
Vertical Transport

Rigid Chain Technology
Integrated Solution

SERAPID



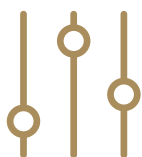
SERAPID

LEVERAGING EXCELLENCE



COMPACT

Minimal Footprint,
No Machine Room



PRECISE

Accurate & Repeatable
Positioning



ROBUST

High Reliability &
Low Maintenance



GREEN

High Energy
Efficiency

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OVERVIEW

VLB BASICS

RIGID CHAIN TECHNOLOGY

INDUSTRIAL LIFT CONFIGURATIONS

SYSTEM COMPONENTS

FEATURES + BENEFITS

SERAPID



The **electro-mechanical** alternative for lifts and elevators. No machine room required!



The Vertical LinearBeam from SERAPID is a vertical linear actuator, specially designed for lifts and elevators. The VLB, as we call it, offers precise, repeatable positioning, and stability with smooth, safe and controlled movement.

The VLB system uses SERAPID Rigid Chain Technology, an electro-mechanical solution for moving heavy loads over long distances. This means that there is no need for complex requirements (oil, tank, pressure lines, etc.) and can be installed with no dedicated machine room.

The compact footprint and powerful lifting capabilities make the VLB a perfect solution for existing structures with limited space requirements. Our versatile, scalable engineering allows for a large variety of uses, from vehicle and freight lifts to lifts in train stations, as recently seen in UK Network Rail stations.

The future of Elevation is here!



SMALL FOOTPRINT

No Machine Room Needed!



POWERFUL RIGID CHAIN

No Hydraulic Fluid or Cables!

RIGID CHAIN TECHNOLOGY

SERAPID's proprietary Rigid Chain Technology is revolutionising the lift industry.



ENGINEERING EXCELLENCE

Rigid Chain Technology, as implemented in SERAPID's VLB product line, is composed of interlocking links that lock together under thrust and load, and function much like a solid bar. Each link within the chain is meticulously engineered for optimal performance.

COMPACT DESIGN

The chain smoothly and seamlessly extends, creating a completely rigid column for pushing and pulling. When retracted, the chain is stored on the opposite side of the beam, allowing for a versatile and powerful system with a compact size and minimal footprint.

SMOOTH + POWERFUL LIFTING

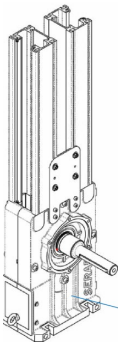
SERAPID's rigid chain actuators offer a robust and reliable push/pull system and positioning mechanism, capable of handling significant loads while maintaining exceptional stability and accuracy.

CUSTOM DESIGNED SYSTEMS

Our engineering department designs and modifies our products, integrating them into bespoke systems, to meet your technical project requirements.

INDUSTRIAL **LIFT**

SERAPID handling and freight lifts offer
high load capacity & precision movement.



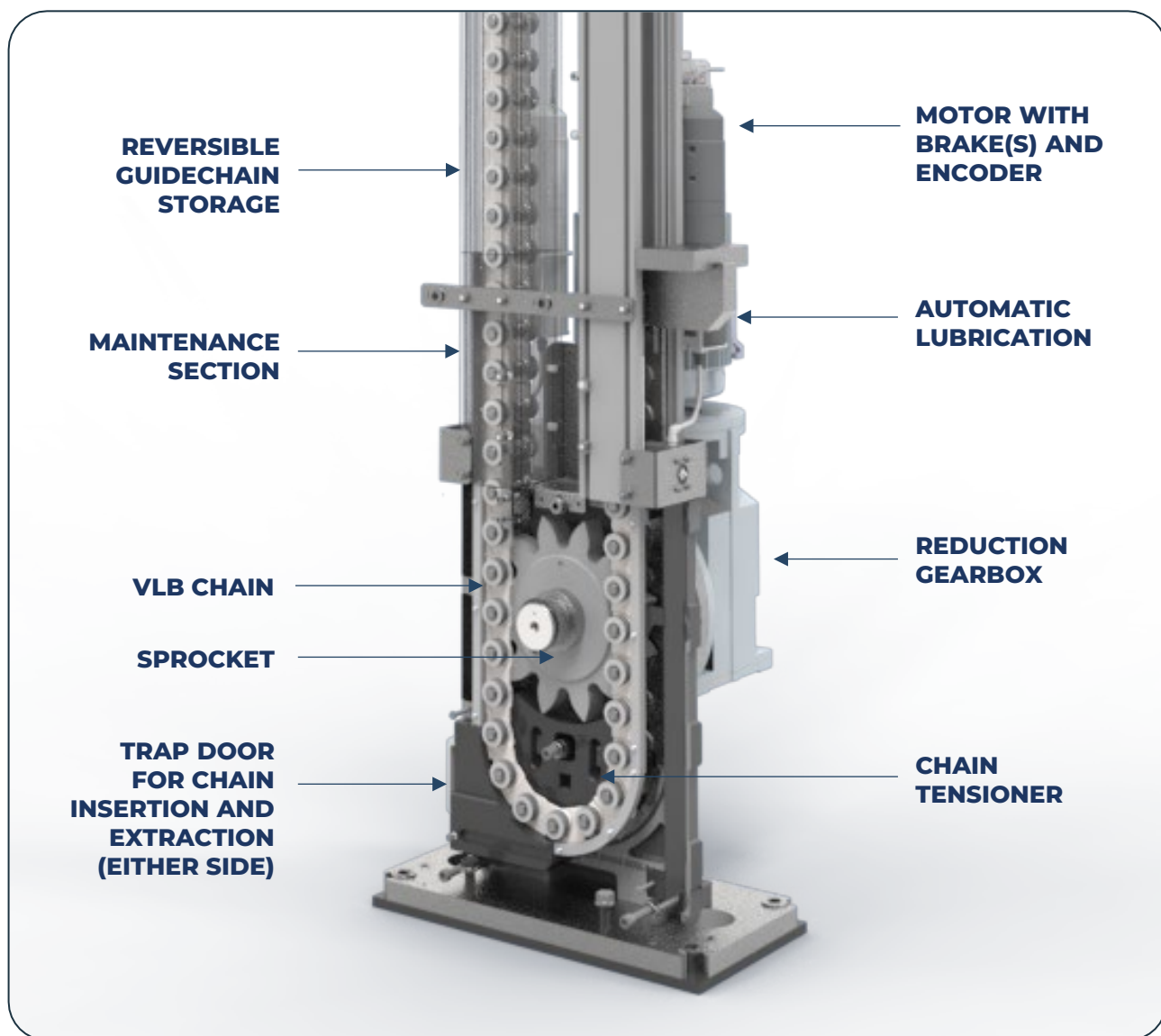
LIFT PACKAGES & CODE COMPLIANT SYSTEMS

SERAPID provides precision movement of high load capacities in the freight, industrial handling and manufacturing industries. Our lift packages always comply with EN81 and/or Machine Directive and lift regulations. SERAPID is a one-stop shop for lift system packages, offering design, engineering, supply, assembly and installation supervising of jobs.





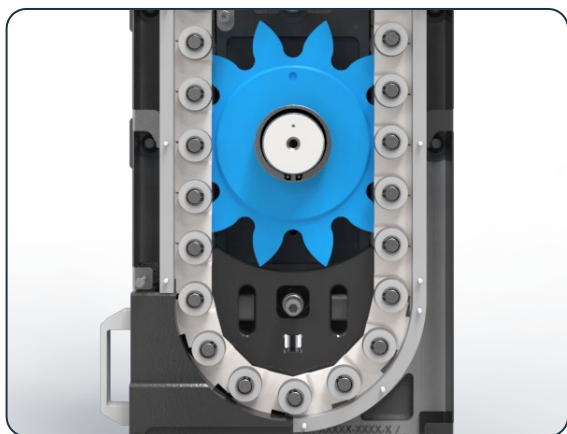
Engineered for fast, quiet and accurate movement with minimal footprint.





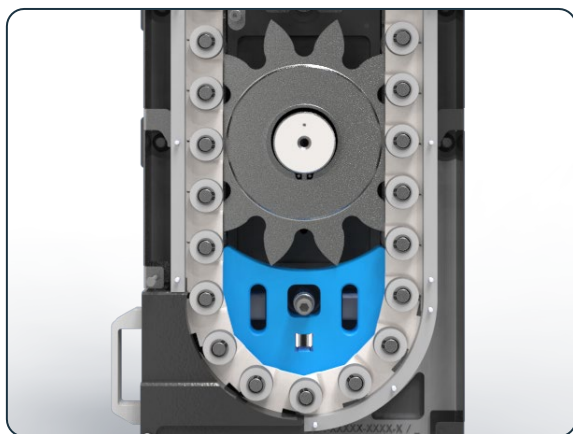
FEATURES + BENEFITS

The New **Second-Generation VLB** with updated design and improved performance.



UPDATED SPROCKET DESIGN

The new VLB features a robust 12-tooth sprocket (opposed to the previous 9-tooth sprocket). Engineered for increased power and efficiency!



CHAIN TENSIONING DEVICE

The VLB's chain tensioner ensures even power transmission and guidance of the chain, ensuring a smooth ride and eliminating rattling.



The **SERAPID** Advantage:



NO LOAD BOUNCE / SPRING EFFECT

The VLB stops smoothly with NO BOUNCE. Positioning accuracy within millimetres!



FORCE VIA FOUNDATION, NOT WALLS

The VLB has been engineered to exert force only onto the foundation of the existing building.



EASY INSTALL & LOW MAINTENANCE

Ready-to-install models with easy installation! Self-lubricating for super low maintenance.



CONFIGURATION OPTIONS

ASSEMBLY OPTIONS

DUAL LIFT DRIVE SYSTEM

CHAIN GUIDES: MODULAR SYSTEM

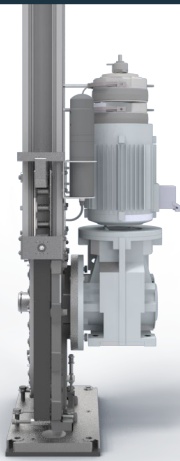
SYSTEM OPTIONS

ASSEMBLY OPTIONS

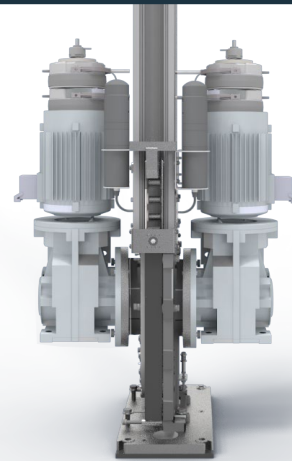
MULTIPLE OPTIONS TO SUIT YOUR PROJECT NEEDS

The VLB can be equipped with single or dual motors, offering additional redundancy to meet applicable lift standards. Motors can be mounted via a flange or torque arms. For heavier loads, **8 or more VLB units can be combined** for synchronised lifting.

1 VLB UNIT + 1 MOTOR

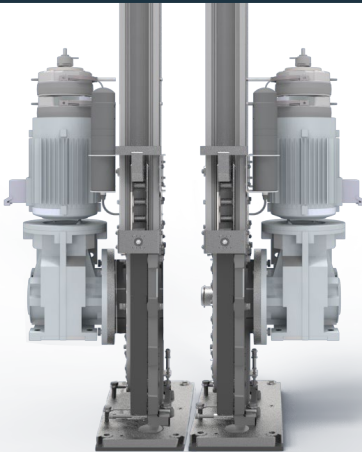


1 VLB UNIT + 2 MOTORS



UP TO 2.5 TONS

2 VLB UNITS + 2 MOTORS



UP TO 5 TONS

4 SYNCHRONISED VLB UNITS



UP TO 10 TONS

SERAPID DLDS

DUAL LIFT DRIVE SYSTEM

DESIGNED WITH SAFETY IN MIND

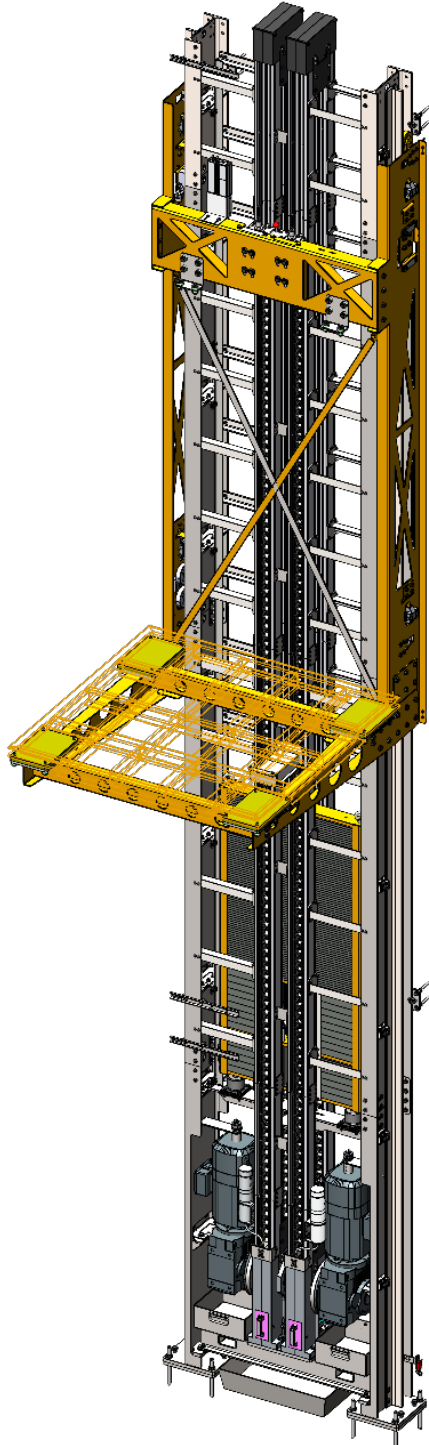
The Dual Lift Drive System (DLDS) lift package is a specialised SERAPID Lift with built-in redundancy for emergency operation to prevent system stoppage.

In the event of a fault, one unit can be 'checked out' in a few minutes, allowing the lift to continue operating.

The system utilises two VLB drives, combined with a self-supporting frame structure, a counterweight and an L-beam for a variable cabin design.

The DLDS was originally designed for use in Network Rail stations across the UK, to provide station access as part of the 'Access For All' program.

The DLDS is defined as a product and type-tested by liftinstituut Amsterdam. For more detailed information, please refer to the DLDS brochure.



CHAIN GUIDES

MODULAR SYSTEM

GUIDANCE MODULES

The VLB guide system is comprised of magazine guides (active/resting), connecting elements, wall mountings and drive housing connectors, connectors for additional guide lengths. Multiple sections can be connected for longer stroke distances.

The number of wall fasteners depends on the application, force ratios and structural conditions. Extruded aluminium profiles allow for versatility in wall mount placement.

Each guide has 2 sides: the active side for the chain lifting the load, and the passive side used for chain storage.

Aluminium guide weight (without brackets) :

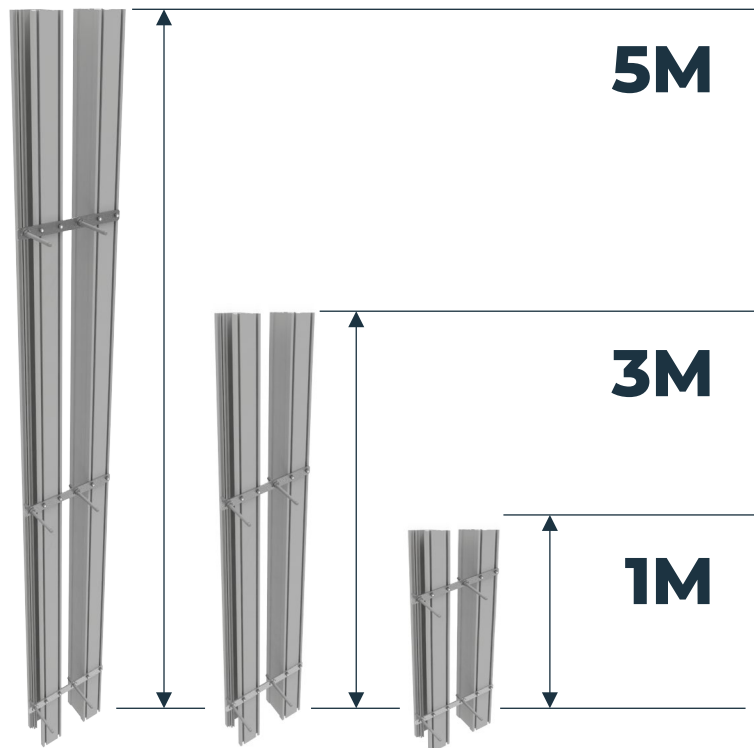
Single channel = 9.5 kg/m

Dual channel = 19 kg/m



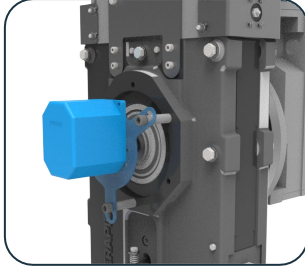
Pictured: Guides are secured to the unit with heavy-duty plates and fasteners.

STANDARD GUIDE SECTION LENGTHS*



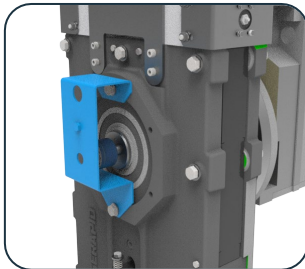
***Standard DLDS Guide Lengths = 1m / 2m / 3m**

SYSTEM OPTIONS



Cam Limit Switch | Repeatable Positioning

A CAM limit switch is a purely mechanical switch and is available with 2 to 8 repeatable positions, which can be set independently of each other. The switch is mounted to the drive shaft with an appropriate mounting bracket.



Encoder | Programmable Positioning

An encoder provides programmable monitoring and flexible positioning over the entire travel path with a high degree of accuracy. The encoder is usually mounted directly on the motor shaft, or in some cases on the VLB-shaft, using an appropriate mounting bracket.



Lubrication | Automated System

The VLB can be equipped with an automatic lubrication system. Lubricant is applied to the relevant lubrication points via spray nozzles using a programmable control system. The only maintenance work required is the regular replacement of the cartridges.



Load Measurement | Integrated Design

Load measurement enables monitoring of the lifting column at the load engagement point, where the force occurs. By using a load measuring pin integrated into the load fork, maximum accuracy is possible via the force transducer with thin-film sensors.



OPERATIONAL **DATA**

PERFORMANCE CAPACITIES

SAMPLE DRAWINGS VLB60-S

PERFORMANCE CAPACITIES

BY THE NUMBERS

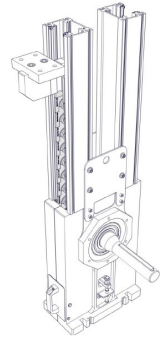
VERTICAL **STROKE***:

25 METRES

BASIC CONFIGURATION

12.5 METRES

DUAL LIFT DRIVE SYSTEM



TRAVEL **SPEED:**

0.63 METRES / SECOND

MAXIMUM **LOAD:**

25 KILONEWTONS

DYNAMIC LOAD (IN MOTION)

35 KILONEWTONS

STATIC LOAD (NOT IN MOTION)

VLB **FOOTPRINT:**

210mm / 324mm**

DEAD **WEIGHT:**

130 KILOGRAMS

DRIVE HOUSING WEIGHT

10 KILOGRAMS / METRE

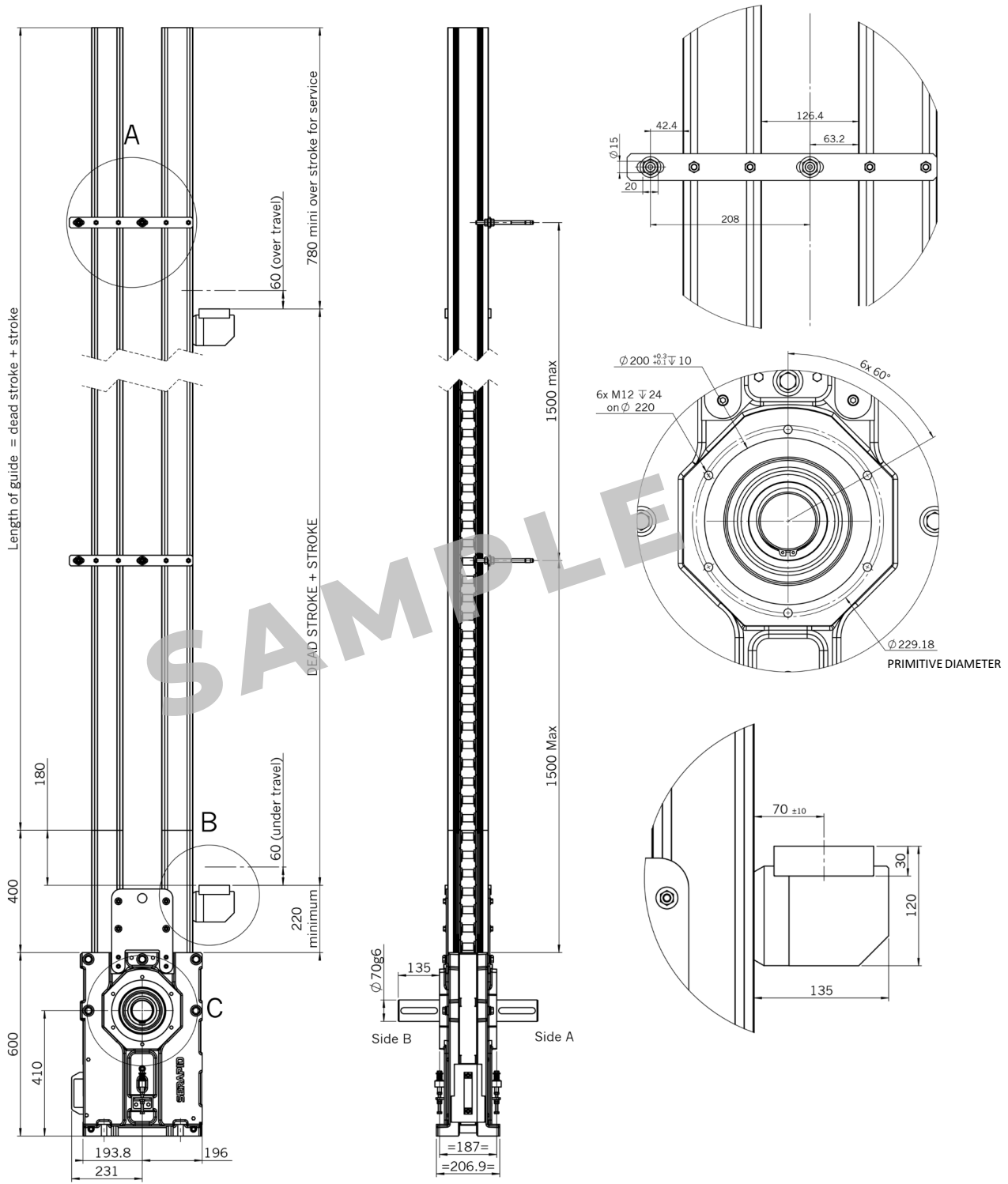
CHAIN WEIGHT

**Longer stroke available on demand. **Without Gear Motor*

VLB60-S

SAMPLE DRAWINGS

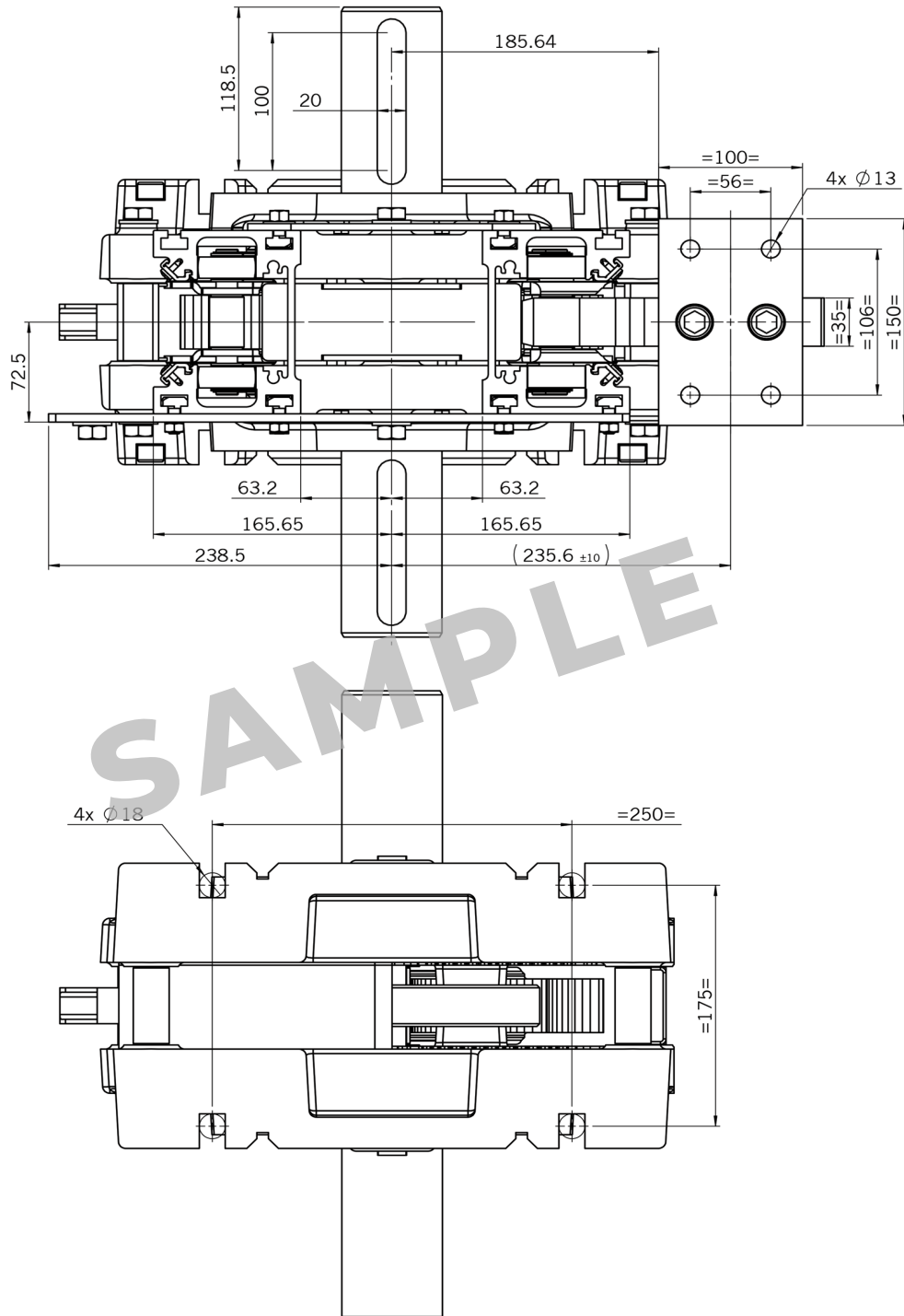
FOR ILLUSTRATION ONLY – UNCONTROLLED IF DOWNLOADED OR PRINTED. - NOT APPROVED FOR OPERATIONAL USE.
Contact us for controlled 2D Drawings and additional configurations.



VLB60-S

SAMPLE DRAWINGS

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