

SPECIFICATIONS

I-Lock Spiralift (ND250)

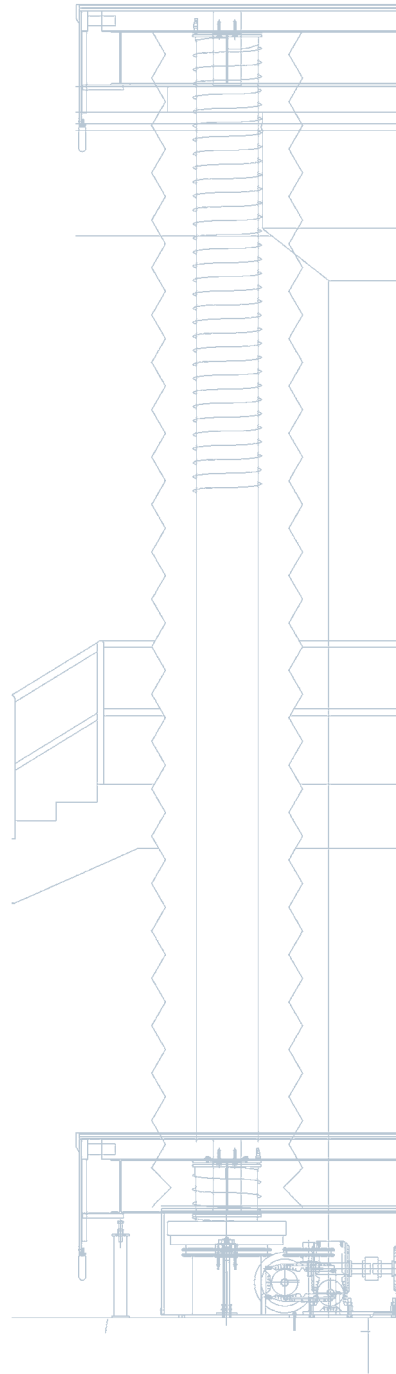
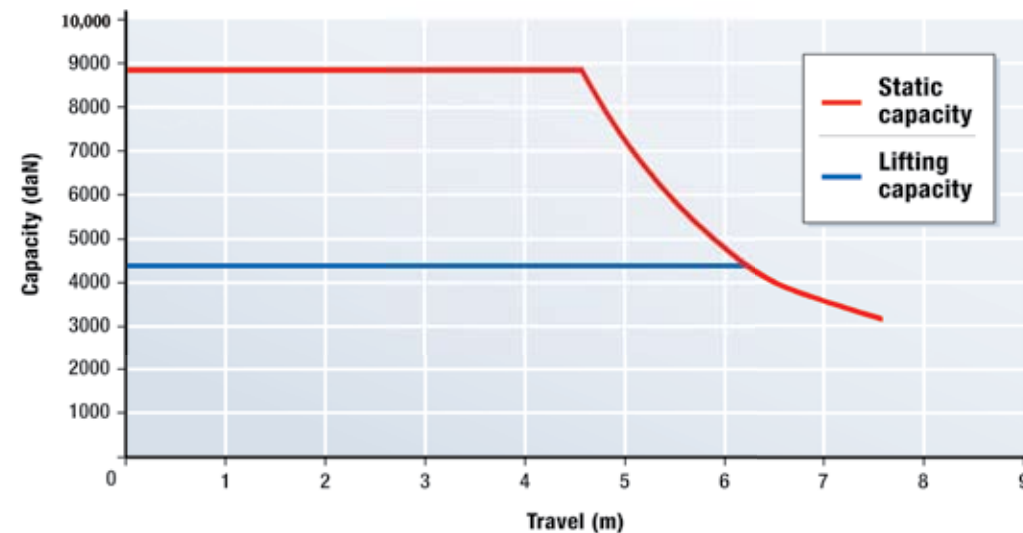
Technical Parameters

Column Diameter	(mm)	250 Nominal
Maximum lifting capacity	(daN)	4450
Maximum Static Capacity	(daN)	8790
Maximum Static Capacity in tension	(daN)	1500
Maximum travel at reduced load	(m)	7.5*
Maximum speed	(m/sec)	0.203 **
Chain Sprocket		Double chain ANSI RS60 – 62 teeth
Torque required to lift Maximum load	(Nm)	980 Nm at sprocket level
Permissible vertical misalignment	(degrees)	2°
Lift travel per revolution pitch	(mm)	108
Column material		Stainless Steel AISI 301
Band dimensions	(mm)	Vertical band: 1.1 x 127 Horizontal band: 4 x 34 approx.
Efficiency	(Percentage)	Up to 78%
Closed height at 3m / 6m / 7.5m of travel		0.533m / 0.661m / 0.725m

* See graph

** Higher speeds with closed housing in development

Static & dynamic capacity VS Spiralift travel



PACO

Spiralift

I-LOCK SPIRALIFT

MECHANICALLY INTERLOCKED STAINLESS STEEL BANDS



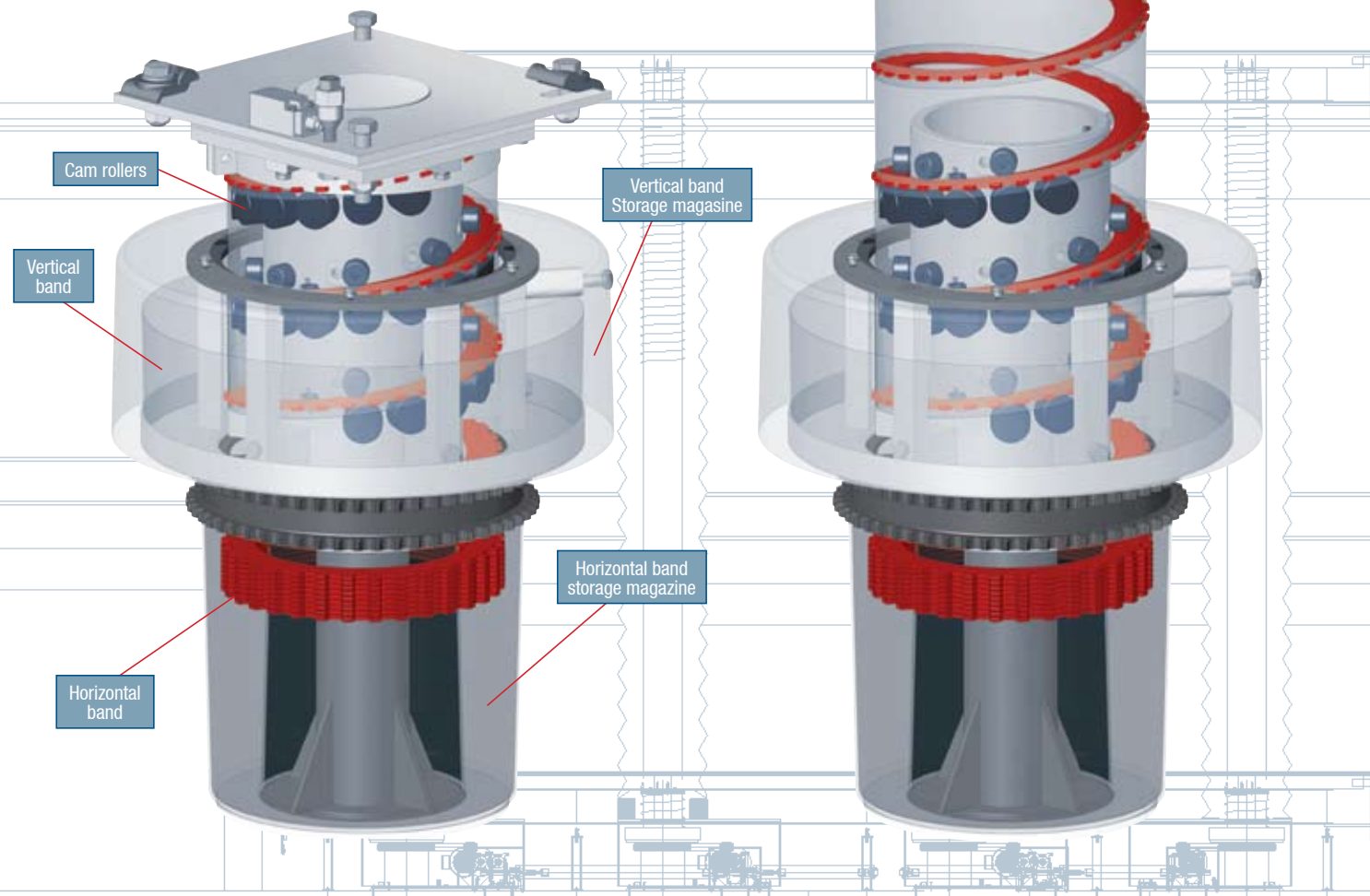
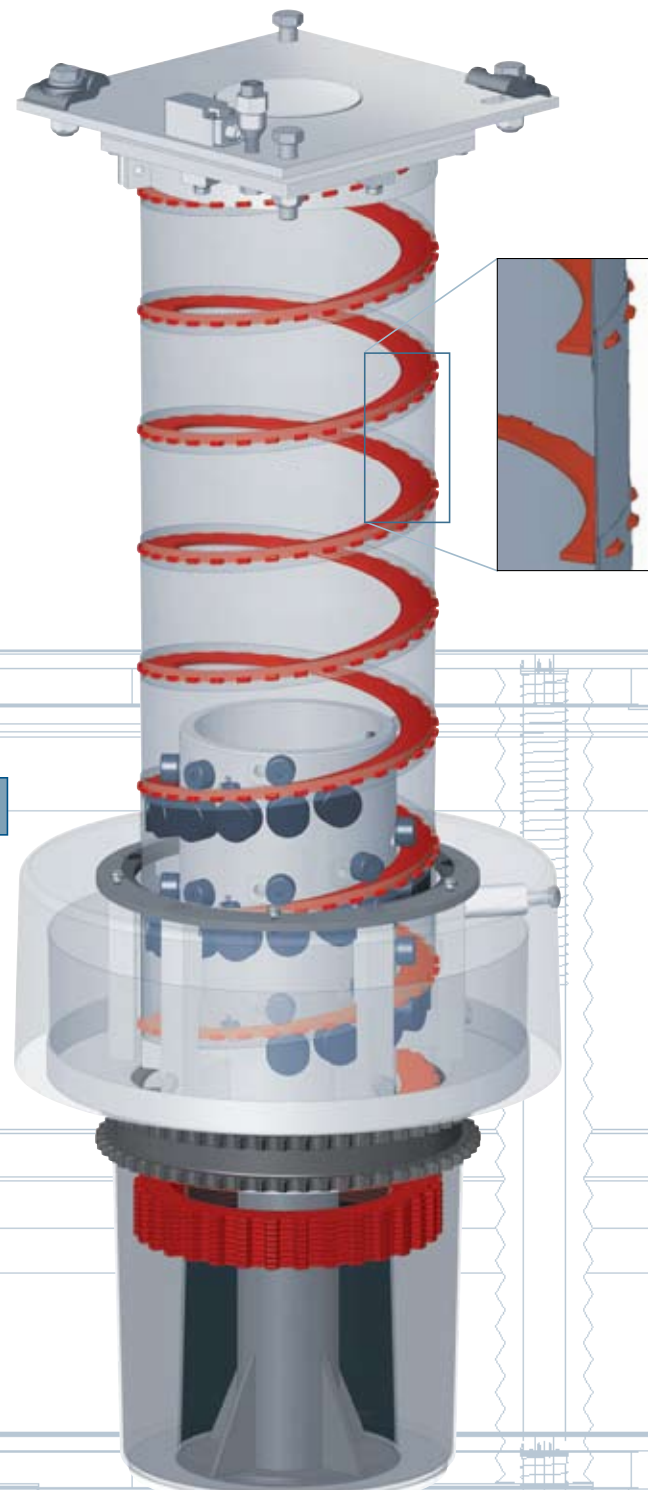
THE I-LOCK SPIRALIFT



Principle of operation

The I-Lock ND250 Spiralift is a linear actuator that is very compact using two stainless steel bands to form a solid lifting column.

The vertical band is stored in a magazine around the I-Lock ND250 Spiralift and the horizontal band is stored below. The vertical band that is perforated is laid over a horizontal band that is toothed with a rotary motion. The horizontal band is raised using a series of cam rollers arranged in a helix pattern. The vertical band is then pushed over the horizontal band. The vertical band is overlapped and the horizontal band perforates the vertical band which then mechanically interlocks both bands creating a solid stainless steel column. This column is raised by the rotary motion of the cam rollers in a helix, much like a ball screw mechanism.



Design Innovation

The completely unique design of this invention is the interlocking of a vertical band with a horizontal band creating a solid stainless steel column. Creating a solid column out of a very compact space which is stable is the unique aspect of this Spiralift. The column is stable and mechanically locked in any direction on the vertical axis as well as in any lateral axes. The column could, therefore, be a push-pull mechanism and has the potential to be run safely without guiding to a certain travel distance.



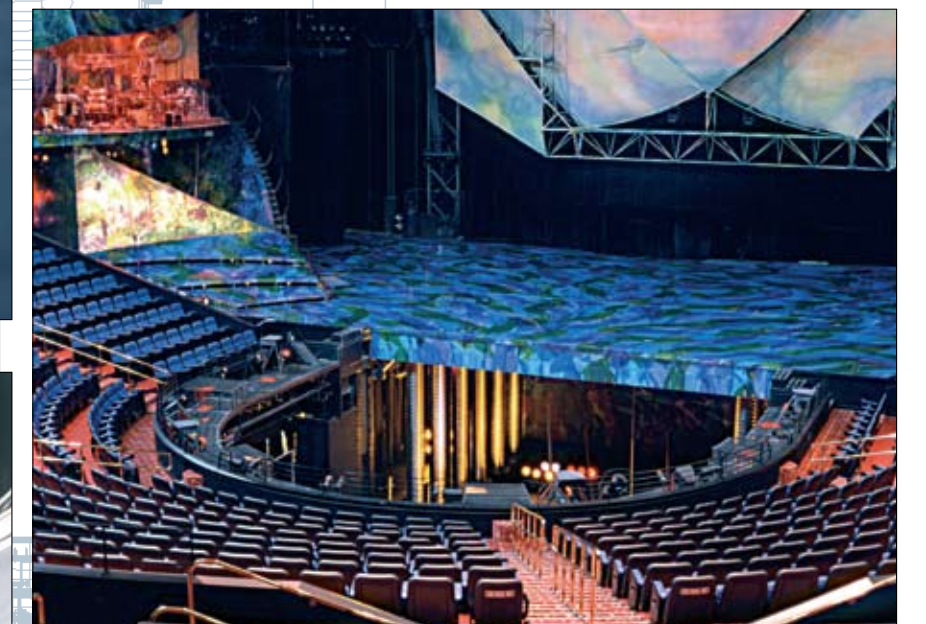
Demonstration unit



Insertion detail

Advantages

- Stability of the column in all axes in any direction.
- High speed of the column due to the large pitch of the helix at 108mm per revolution.
- Low noise, can be used during performances.
- High travel distance up to 7.5 m.
- Smooth rotary motion and quiet operation.
- Easy to handle and to install.
- A large static capacity up to 8790 daN.
- Very compact design: 0.661 m closed height for a 6m travel.
- High efficiency up to 78%.
- Low wear/low maintenance usually 1/yearly visit required.
- No corrosion due to stainless steel.



Stage lift application