

## Rated Capacity Limiter for Excavators (RCL)

The Helics MkII rated capacity limiter is a specially designed system for Excavators. The system complies with the most recent EN 13000 standard and protects the excavator against instability and overload. The machine operator receives all the relevant information by a 7" touch screen fitted in the cabin. He can choose between different tools and configurations of the machine (on wheels, on dozer blade and/or outriggers). The system is standard equipped with a height limiter and a slew limiter with virtual walls is an option.

## The System and Load Chart

Each boom section is equipped with stainless steel IP67 angle sensor, which are connected by CAN-bus. The hook load is calculated from the information received from the pressure sensors on the lift cylinders and the positions of the angle sensors, which also calculate the radius. The slew angle is defined by means of a bi-polar magnetic sensor on the slew ring. This enables the position in 1/50th of a degree. This slew indication makes it also possible to create separate load charts over the front, rear, sides and proportional over the diagonal sections (see fig. left). There is also a simple 360 degree load chart version possible for e.g. crawler machines.

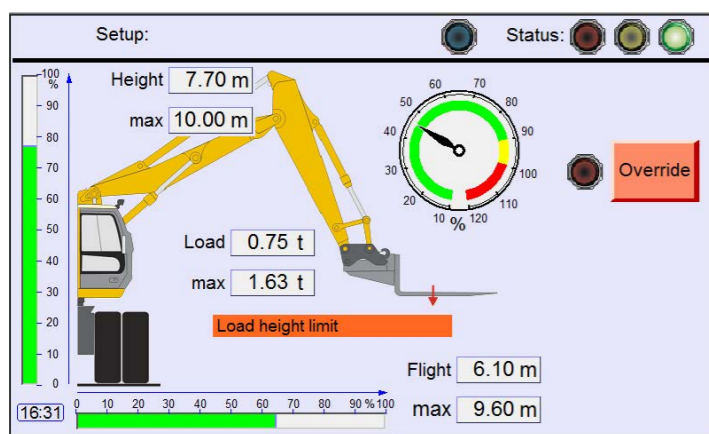


## Lifting jibs and Pallet Fork Program

Lifting jibs and pallet fork use can be calibrated in the system. All the tools receive their own load chart. Besides one piece lifting jibs, there is also the possibility to calibrate mechanically and hydraulically extendable lifting extensions. When a hydraulically telescoping jib is used the length will be measured by a length sensor. A jib can also be fitted and safe guarded with a winch, the three last winding alarm and an anti two blocking device is also in the Helics. Pallet forks can be used in the system directly mounted on the quick hitch or in combination with a rotating coupler.

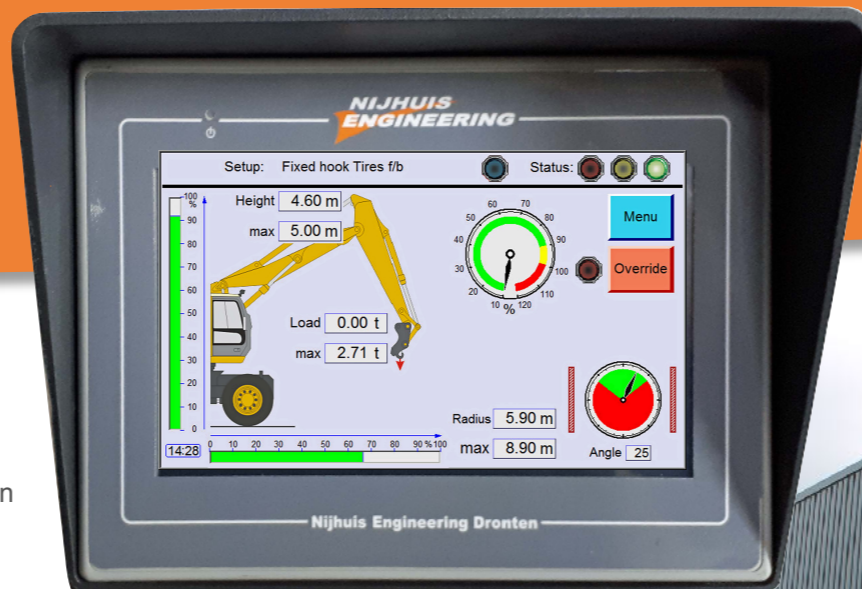
## Deliver an Excavator and receive a Crane

The Helics system will be supplied complete, including the hydraulic alterations. After completing the system it will be calibrated and the maximum load chart (within the regulations) will be implemented in the system.



## Specifications

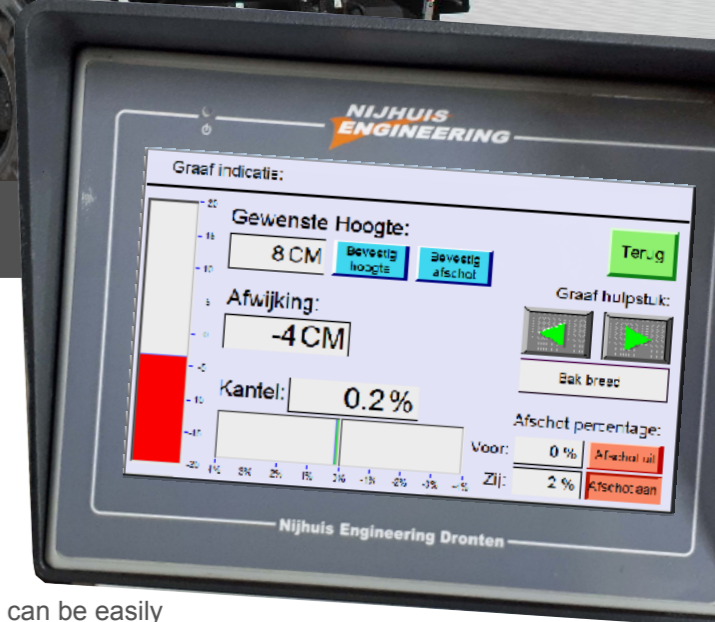
- 7" touchscreen display
- IP67 Stainless steel sensor on each boom section
- Special hydraulic cut out manifolds
- Lifting jibs (one-piece, mechanically- or hydraulically telescoping with/without winch) possible
- Pallet forks program (normal or back to front set up and in combination with a rototilt)
- Standard integrated height limiter
- Optie: Slew/Area limiter with virtual walls
- Optie: Foundation mode program
- Optie: 2D digging indicator on RCL display
- Optie: Automatic switching ride direction alarm



## A smart combination with...

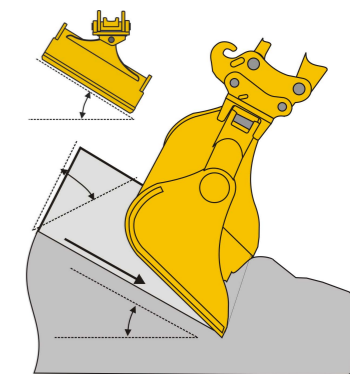
### 2D Digging system

The Helics system can easily be changed into a 2D digging indicator, supporting a tilt bucket. Just by pressing a button on the screen the safety system will turn into a 2D digging indication. The crane driver defines the height by touching a reference point with the bucket. A bar graph in the display shows clearly in colors and centimeters how far the cutting edge of the bucket deviates from the desired height. The operator can use the pitch and roll lines, which are indicated on the horizontal bar graph. The pitch level of both lines can be easily adjusted in the screen and you can easily tilt the bucket sensor into the profile.



### Safety system for pile driving with vibratory hammer

The safe load system can also be fitted out for foundation work with a vibratory hammer, conform the EN 16228 and testing to the TCVT W6-01. In the fundating mode the RCL works as a pulling load signal system. Unsafe motions or situations are only indicated, but there will not be a cut out of the motions.



### Automatic changing back up alarm

The Helics version equipped with slew position detection, can be supplied with an automatic change over alarm when the upperstructure is turned round and the front becomes the rear, so when driving backwards in respect to the crane driver will be the direction where the alarm will work.



## We get the maximum legal load chart of your machine, by using our unique load simulation platform

We have a multi purpose simulation platform at our test facility in Dronten. With this test platform we simulate every thinkable configuration and working position of the machine, while applying test loads and measuring the stability effect on the machine. A strain gauge is fitted under each road wheel, defining the load under each support. By doing so, it enables us to create and implement an ideal load chart in the Helics RCL of your machine.

## TM Jib Extensions

Nijhuis Engineering manufactures jib extensions e.g. for excavators under the branch name TeleMast (TM). in different lengths, capacities and models.

Options are ; mechanically or hydraulically telescoping, with a fixed hook and / or a winch. All the extensions are build light but robust and delivered with all the certifications and documents.

In case the standard jib does not fit your job, we can design and produce one to your demand.

# NIJHUIS ENGINEERING

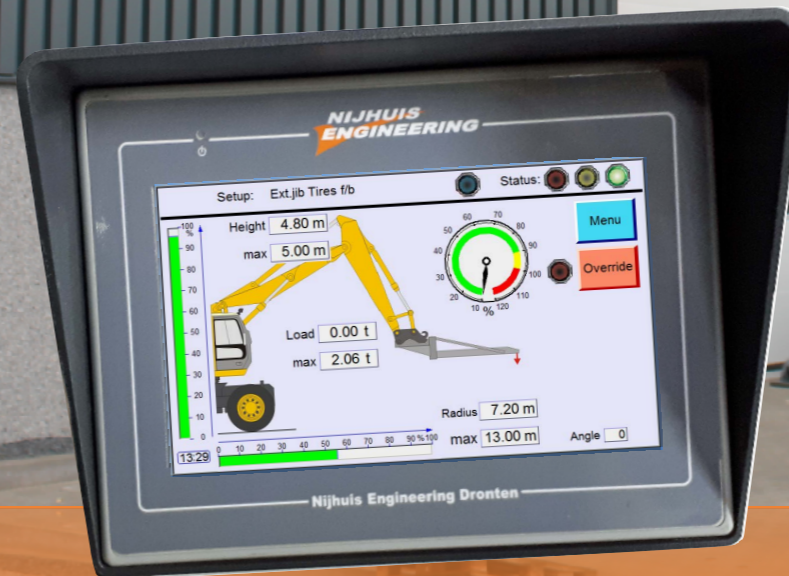
# Helics

Rated Capacity Limiter (RCL) for hoisting excavators



### You are at the right address for:

RCL safety systems	On board weighing systems	Constructions	Auxilliary products
EN 13000 limiters (weighing Load limiters)	Weighing for wheel loaders	Hi-rail conversions & BE-AR	EN280 Platform conversions
EN 15746 Safety systems for hi-rail machines	Weighing for excavators	Jib extensions (telescopic and/or with winch)	Remote controls
Digital height, slew and area limiters	Weighing for conveyor belts	Access platforms (steel or aluminium)	Digging indication systems
Hose brake valves electrical and mechanical	Weighing system for agriculture trailers	Special constructions / 3D engineering	Special products



## Rated Capacity Limiter for hoisting excavators conform EN 13000