MHC Simulator Training Pack

Simulated Equipment Specs

Max Working Radius: 51 m
Hoisting Height Above Quay: 47 m
Max Lifting Speed: 120 m/min
Max capacity: 125t

Overview /

CM Labs' Mobile Harbour Crane (MHC) Simulator Training Pack is the most effective simulation-based MHC crane training solution available today. It is designed to provide trainees with total readiness for any potential MHC operating challenge, including complex lift trajectories, compromised views, and unexpected equipment failures.

Key features & benefits /

CM Labs' MHC Simulator Training Pack is a complete learning solution. It replicates the challenges of operating in realistic conditions, within a safe and controlled environment. This allows trainees to acquire vital skills that transfer to the real world, without fear of real-world repercussions.

A progressive learning program covering weeks of operator training, ranging from controls familiarization to travel, loading and unloading, and much more.

Performance metrics and reporting that provide trainers with real-time feedback on operator aptitudes and habits, along with overall scoring.

Best-of-class crane, cable, and lifting simulation that ensures trainees understand how the crane works and what is required for efficient operations.

Smart Training Technology

Port terminal operator training is often constrained by operational requirements, but the MHC Simulator Training Pack provides effective training at any time. It delivers the most transferable operator skills anywhere, outside the real equipment — like all CM Labs training solutions. That's because they are the only solutions on the market to incorporate CM Labs' Smart Training Technology™.

Smart Training Technology is comprised of CM Labs' proprietary and patented algorithms. Built on a high-fidelity real-time physics engine, it includes a mechanical engineering layer with multi-body constraints, transmission, cables, and other real-time simulation features that are unique on the market. This results in training that's based on real data and real machines.

The simulated MHC can be also customised to match the characteristics of your existing quayside equipment, including joystick deadbands, flipper behaviour, and hoisting, luffing, and traveling speeds.

The MHC Simulator Training Pack comes with a variety of unique operator assessment tools, including the real-time Load Path Graph, which provides a visual indicator of load trajectory while the trainee is operating the simulator. This powerful tool allows instructors to provide immediate feedback to novice operators during training sessions, and correct any inefficiency before it becomes a habit.

The training solution also generates a real-time Hook Block Map, for a visual representation of load pendulums and all other deviations of hoist lines from the vertical. This helps trainees intuitively develop a rapid understanding of the movements required for load control.

Supported Vortex Hardware Platforms

The MHC Simulator Training Pack can be installed on any Vortex simulator hardware platform, with different configurations to meet your budget, space, and training requirements. Designed for years of 24/7 operator training, Vortex simulators are built to last.

Vortex Trainer: Entry-level desktop training

Vortex Advantage: Versatile training station

Vortex Master: Complete trainee immersion

Learning program

With a focus that goes far beyond basic controls familiarisation, the MHC Simulator Training Pack exposes operators to conditions that are challenging or unsafe to replicate outside the simulator, including night-time operations, compromised view due to glare, twist lock failures, rigging breaks, snags, and more.

Exercises include:

- ✓ Controls familiarization
- ✓ Preparing the crane for travel
- ✓ Driving and parking
- ✓ Efficient loading and unloading of containers (twin-20ft, 40ft, and 45ft)
- ✓ Working with bulk and breakbulk

Trainer can also use the optional Instructor Operating Station to create unlimited custom exercises, trigger unexpected events, and generate Load Path Graph and the Hook Block Map reports.

Performance measurement

The MHC Simulator Training Pack gives trainers objective insight into trainee performance and abilities. Instructors can access key performance metrics in real time, such as:

- ✓ Number of collisions
- ✓ Cable slack
- ✓ Optimal trajectory match
- ✓ Unsafe operations
- ✓ Aggressive landings
- ✓ Moves per hour
- ✓ … and more

Instructors can also generate reports based on customizable scoring parameters, and review against benchmarks or past training sessions.