
CKAS MotionCor3



Introduction

The CKAS MotionCor3 is a mid cost 6 degree of freedom (6DOF) simulation platform targeted at simulator builders who are seeking to quickly develop a **high fidelity motion simulator** of any kind for up to 2 persons. The MotionCor3 comes with a choice of two different payload motion systems and can be turned into a fully enclosed motion simulator very quickly with little addition of parts from the simulator builder.

Target Applications

- **Medium Scale Fully Enclosed Mid Weight Professional Fidelity Flight Training Simulators for up to 2 persons**
- **Medium Scale Fully Enclosed Military Training Simulators for up to 2 person**
- **Medium Scale Fully Enclosed Professional Fidelity Commercial Vehicle and Truck Driver Training Simulators**
- **Medium Scale Fully Enclosed Mining Equipment Simulators and Heavy Earth Moving Equipment Simulators**
- **Medium Scale Fully Enclosed Professional Fidelity Train Driver Simulators for up to 2 person**
- **Medium Scale Fully Enclosed Professional Fidelity Research Platforms**

General Description and Capabilities

The CKAS MotionCor3 is based around the CKAS V7 and V10 6DOF Motion Systems, which feature some incredible response and fidelity. The MotionCor3 allows a professional simulator builder to "quickly" build a sizeable motion simulator from typically available components such as COTS monitor, controllers and seats, and finally adds the most sought after quality of a real simulator – true full motion.

The CKAS MotionCor3 features a 2250mm total width, and sits less than 2400mm high when parked. It is integrated with a V7 or V10 motion system, whose floor sits at 725mm high, therefore requiring the need for a specialised stair or gangway for stepping up onto it.

The expected life of the MotionCor3 is extremely high for its price point, and the maintenance requirements are minimal, especially important in commercial or consumer based applications.

The CKAS MotionCor3 comes with the following inclusions:

- CKAS V7 or V10 6DOF Motion Platform (choice of 2 payloads)
- Rigid fibreglass single piece cabin structure with integrate visual imaging surface.
- Rigid prefabricated fibreglass imaging screen to cover a 120° horizontal and 30° vertical projected field of view from the design eye point.
- Three (3) short throw 3:4 projectors and all adjustable mounting hardware to mount projectors to frame assembly.

The following items are NOT included in a CKAS MotionCor3:

- Computer is not included – The computer is provided by the customer since CKAS has no control over the final application. The computer must run Microsoft Windows XP/Vista/7 to interface with the motion system.
- Distortion correction software to adjust the projected image to the imaging surface (such as Nthusim or Sol7). The MotionCor3 **DOES NOT** require distortion correction software, and a customer would only use this by choice perhaps for some edge blending only. The imaging surface is made up of 3 flat sections which the projectors can directly project to.
- Cockpit Hardware is not included – The cockpit hardware is purely at the discretion of the customer, since they are providing the end result simulator.
- Seats are not included – Due to the fact that all customers have a different specification for the type of simulator that is required, CKAS does not provide seats for the simulation platform.

For more information about software compatibility and performance characteristics, please see data sheet for CKAS V7 and V10 6DOF Motion Systems (6DOF Systems)

General Specifications

(Subject to change without notification)

Product Name	CKAS MotionCor3
Product Code	MOTIONC3
Product Number	05.0001.11
Product Description	Medium Scale 6 degree of freedom Simulation Platform
Harmonization Code (HS)	Electrical machines and apparatus, having individual functions, not specified or included anywhere. Typical numbers include: 854370 or 854380 or 8543.70.96.50 or 8543.70.90.99

Mechanical Specifications

Framework material	High Rigidity Single Piece Fibreglass Monocoque	
Visual System Architecture	Triple Projection system on fibreglass imaging surface (included)	
Visual Field of View	120° Horizontal x 30° Vertical (at the design eye point)	
Motion System Adaptability	CKAS V7 6DOF Motion System	CKAS V10 6DOF Motion System
Nominal Width	2300 mm (90.6")	2500 mm (98.4")
Nominal Length	2150 mm (84.6")	2250 mm (88.6")
Nominal Height	2325 mm (91.5")	2350 mm (92.5")
Approx unit weight	620 kg (1,370 lb)	700 kg (1,540 lb)
Anchoring Specification	6 places 13mm holes distributed to be anchored with 10-12mm fasteners	

Performance Specifications

Available User Payload	500 kg (1,100 lb)	850 kg (1,880 lb)
Available User Moment of Inertia	150 kg.m ² (3,560 lb.ft ²)	320 kg.m ² (8,540 lb.ft ²)
Payload CG horizontal offset	Less than 100mm from Centroid of Flying Platform	
Payload CG Vertical offset	Less than 600mm high from top of Flying Platform	

For more information about performance characteristics, please see data sheet for CKAS V7 and V10 6DOF Motion System (6DOF Systems).

Electrical Specifications

For more information about electrical characteristics, please see data sheet for CKAS V7 and V10 6DOF Motion System (6DOF Systems).

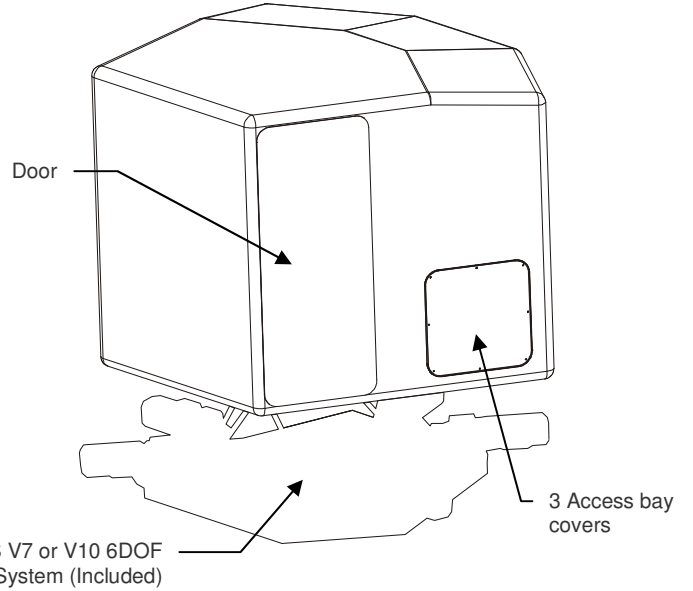
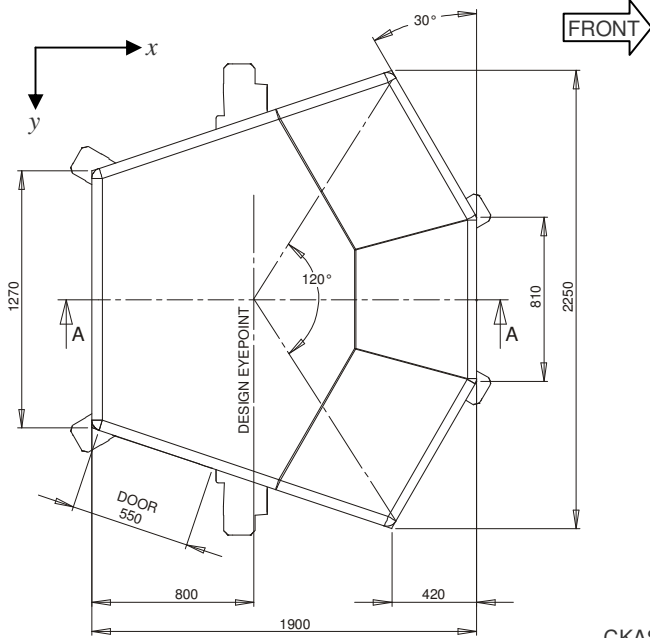
Software Specifications

For more information about software compatibility, please see data sheet for CKAS V7 and V10 6DOF Motion System (6DOF Systems).

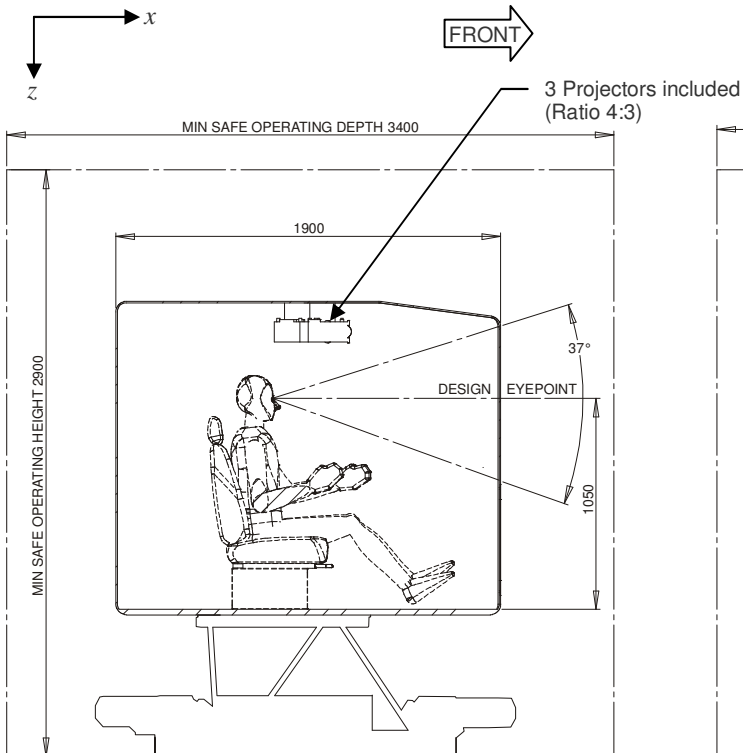
CKAS MotionCor3 Engineering Dimensions

(Subject to change without notification)

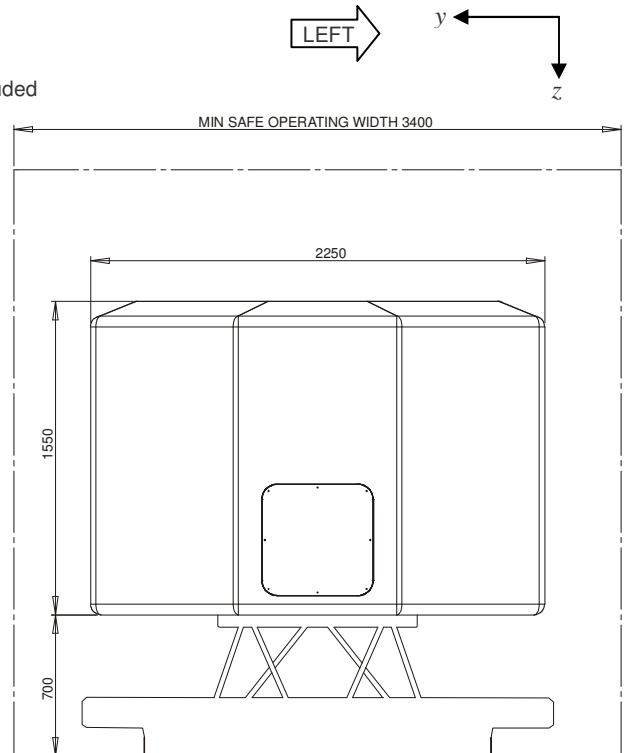
View of Simulation Platform from TOP



View of Simulation Platform from RIGHT

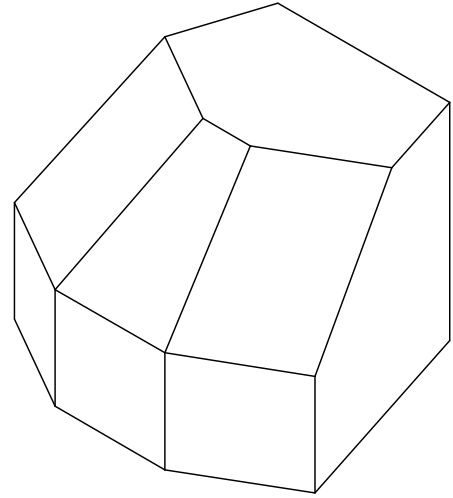
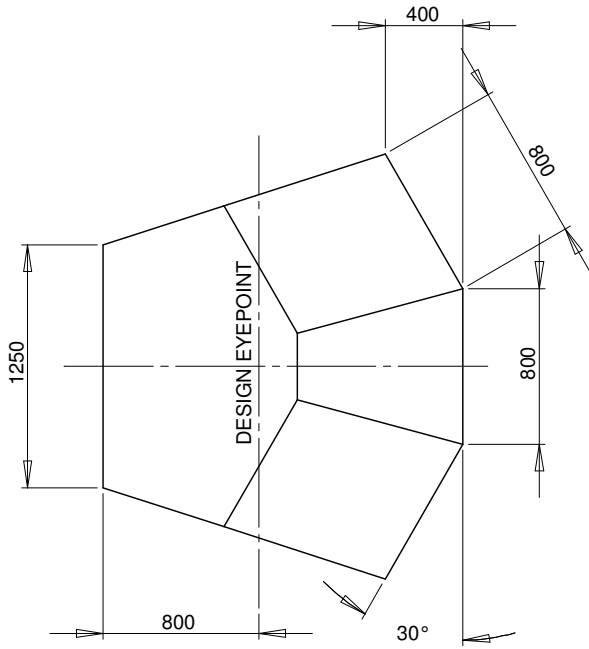


View of Simulation Platform from FRONT



CKAS OpenFRM Dual Maximum Cockpit Volume

(Subject to change without notification)



NOTE:

THIS SHAPE APPROXIMATELY DEFINES THE USABLE INTERNAL VOLUME OF THE MotionCor3 CABIN. EXCURSIONS OUTSIDE OF THIS ENVELOPE MAY INTERFERE WITH THE VISUAL SYSTEM.

THE GIVEN ENVELOPE WILL ENSURE THAT ALL OF THE PROJECTED IMAGE IS UNOBSTRUCTED, HOWEVER THIS IS NOT ALWAYS REQUIRED.

