
CKAS OpenFRM Dual



Introduction

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

Target Applications

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

General Description and Capabilities

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

The CKAS OpenFRM Dual features a 3200mm total width, and sits less than 2500mm 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 OpenFRM Dual is extremely high for its price point, and the maintenance requirements are minimal, especially important in commercial or consumer based applications.

The CKAS OpenFRM Dual comes with the following inclusions:

- CKAS V7 or V10 6DOF Motion Platform (choice of 2 payloads)
- Rigid Aluminium Alloy framework and assembling hardware (screws/brackets/etc) which requires some very basic assembly to hold the main structure on the motion platform
- Rigid prefabricated fibreglass imaging screen to cover a massive 180° horizontal and 30° vertical projected field of view from the design eye point.
- Three (3) short throw wide screen high definition projectors and all adjustable mounting hardware to mount projectors to frame assembly.
- Rigid 25mm multi-ply floor for installing all the cockpit components such as seats, controls and other components.

The following items are NOT included in a CKAS OpenFRM Dual:

- 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 projectors will not fill the imaging surface correctly without distortion correction and blending.
- 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 OpenFRM Dual
Product Code	OPENFRMD
Product Number	25.0001.11
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	Pre-Painted Aluminium Alloy	
Visual System Architecture	Triple Projection system on conical fibreglass imaging surface (included)	
Visual Field of View	200° Horizontal x 40° Vertical (at the design eye point)	
Motion System Adaptability	CKAS V7 6DOF Motion System	CKAS V10 6DOF Motion System
Nominal Width	3200 mm (126.0")	3200 mm (126.0")
Nominal Length	2150 mm (84.6")	2250 mm (88.6")
Nominal Height	2525 mm (99.4")	2550 mm (100.4")
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	90 kg.m ² (2,130 lb.ft ²)	270 kg.m ² (6,400 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).

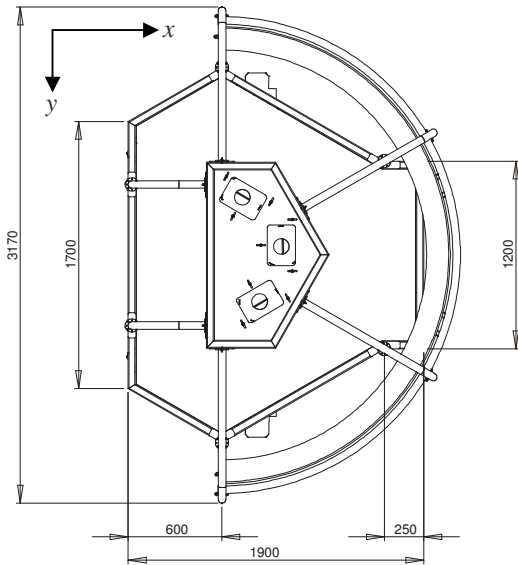
Software Specifications

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

CKAS OpenFRM Dual Engineering Dimensions

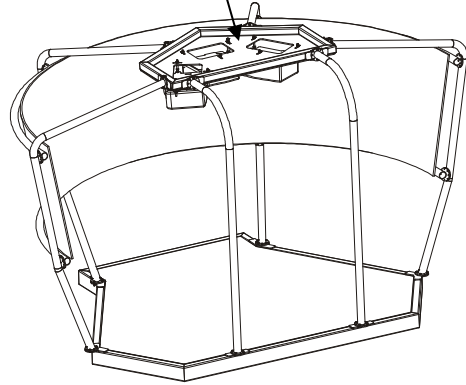
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View of Simulation Platform from TOP

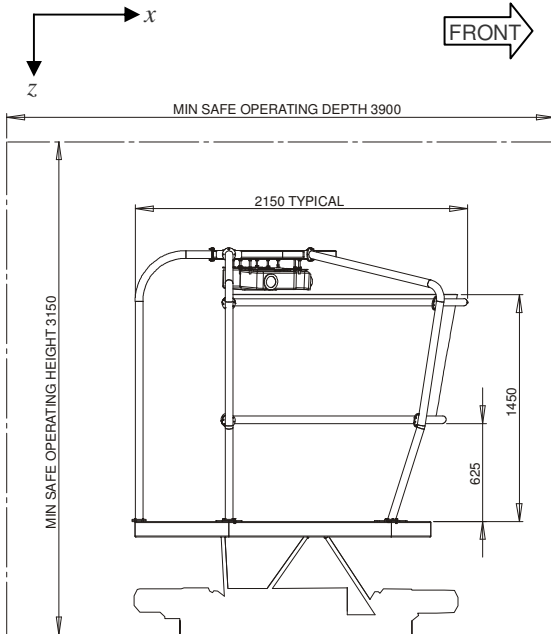


FRONT →

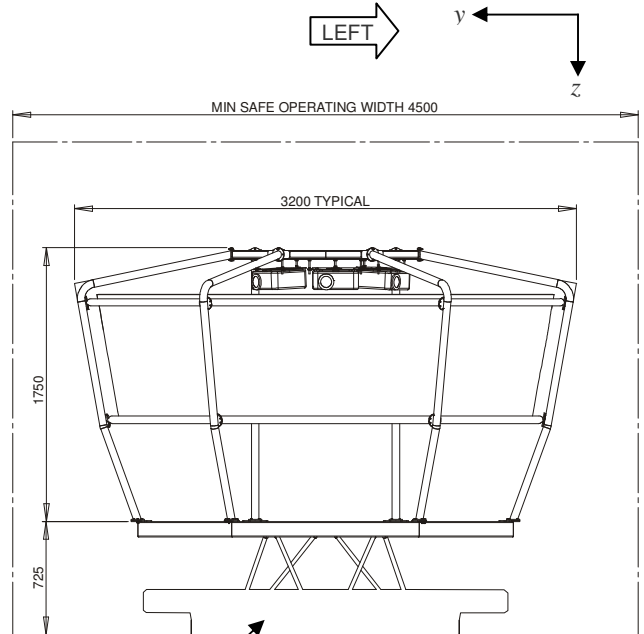
3 Widescreen Projectors included



View of Simulation Platform from RIGHT



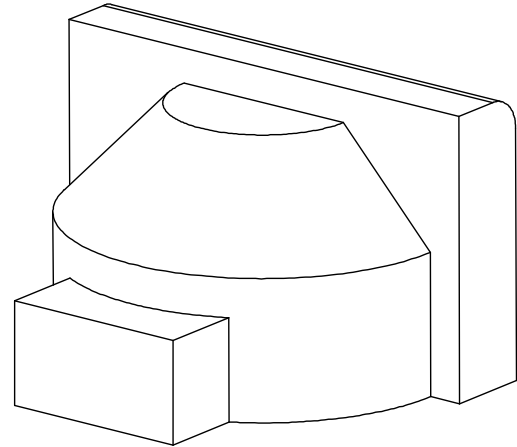
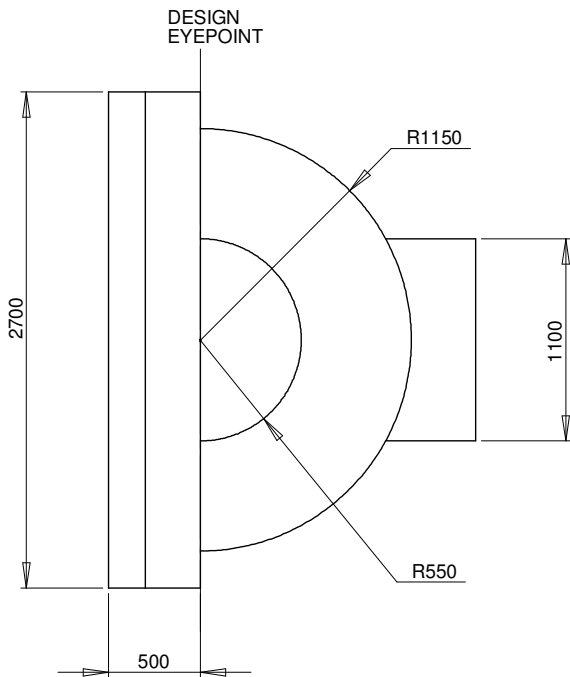
View of Simulation Platform from FRONT



CKAS V7 or V10 6DOF Motion System (Included)

CKAS OpenFRM Dual Maximum Cockpit Volume

(Subject to change without notification)



NOTE:

THIS SHAPE APPROXIMATELY DEFINES THE USABLE INTERNAL VOLUME OF THE OpenFRM Dual 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.

