

Wind Sway MANAGEMENT SYSTEM MOVEMENT SOLUTIONS

Fujitec provides a solution to overcome the effects of wind sway in buildings that experience a considerable amount of movement. The result is Fujitec's **WSMS** (*Wind Sway Management System*) which utilizes an accelerometer and Wind Sway Controller to determine the elevator's response to specific threshold ranges.

Overview

Wind Sway Controller

WSMS incorporates an accelerometer (measures horizontal building movement in X and Y directions) with the Wind Sway Controller to communicate directly to the elevator control system. Fujitec identifies 4 levels of pre-determined thresholds for rope displacement and performs the corresponding operations below.

	Level 1	Level 2	Level 3	Level 4
ACTION	reduce speed by 1/3, operation maintained	reduce speed by 2/3, operation maintained	Cab dispatched to safe floor. Suspend Elevator Service after passengers exit	Cab stops at next available floor, opens doors for passenger egress. Elevator shuts down, out of service
RETURN TO OPERATION	Sway damps out, normal operation resumes	Sway damps out, cab sequences through level 1 operation then to normal	Sway damps out, cabs perform terminal test for issues, sequence to level 2, level 1 and normal operation	Travel is no longer permitted until technician manually resets the system

Benefits of WSMS



Improve tenant safety. Ensure elevator operation commences only when system performs/completes necessary diagnostics for safe operation



Improve system longevity and mitigate costly repairs by implementing definitive operational procedures to avoid equipment damage



Achieve desired operational results with regards to power consumption, performance parameters and system reliability



An alternative and cost effective solution

MODEL -VS- TEST

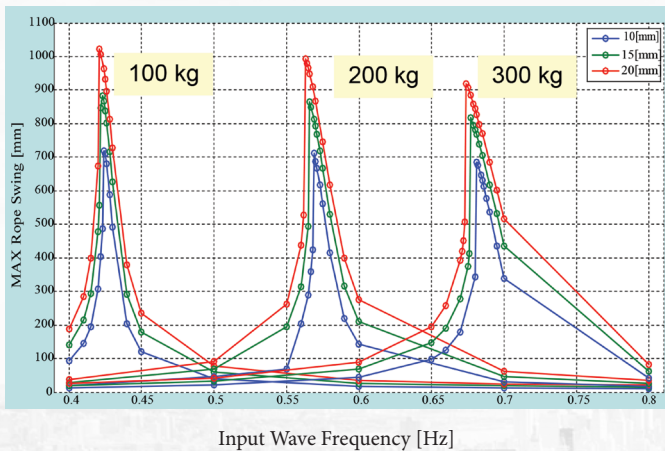
UNDERSTANDING THE METHOD

Below represents the correlation between the Fujitec model and the actual test for maximum displacement. Accuracy of the Fujitec model and the tests are within $\pm .06$ of a percentage point.

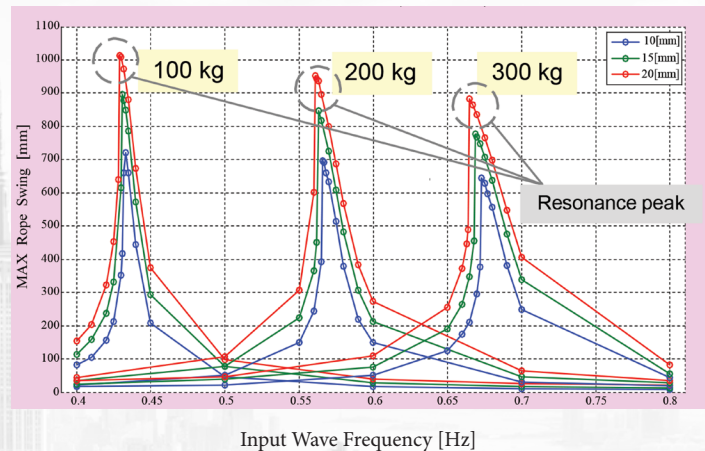
NP
NEW PRODUCT

Results

FUJITEC Model



TEST Result



Comp with Damper Option

An additional option offered by Fujitec is a Compensation Sheave Damping System, which includes four hydraulic dampers (*shown right in purple*) on the comp sheave assembly in the pit. The dampers effectively reduce the amplitude of rope displacement for hoist and compensation ropes. For additional information on the application and deployment of this system, please consult with your local Fujitec representative.

