

## DESCRIPTION

The Jands SP650 Servo Hoist is a high performance motorised grooved drum steel wire rope hoist designed for use in the most demanding theatrical power flying system applications.

The hoist lifting capacity of 650kg allows for a heavy rigging bar of up to 150kg while still maintaining a generous nett bar capacity of 500kg.

Sustained (S3 duty cycle) lifting speeds of 1.5m/s with a bar payload of 250kg and 0.75m/s with a bar payload of 500kg can easily be achieved with the powerful 29A Siemens Compact servomotor.

Full load operation is possible at extremely low speeds permitting the most complex and demanding scenic moves to be accomplished.

The integral serial-absolute encoder permits positional accuracy to fractions of a millimetre of rope travel, and when coupled to a closed loop servo control system, multiple SP650 Servo Hoists can be precisely synchronised to achieve control of very high payloads with absolute accuracy and safety.

The use of the Siemens "Drive Click" encoder connection system, together with a single 10 pole multipin connector for the secondary brake, crossed-groove detector, limits and machine isolator greatly simplifies the electrical connection to the hoist.

A direct coupled 4 pole rotary limit switch provides "hard" end-of-travel limits and emergency over-travel limits, and an optional 6 pole rotary limit provides the dual redundant over-travel limits required in the application of higher category safety systems.

A self-monitoring fail-safe conductive bar detector is provided to generate the necessary signals for an external control system to inhibit hoist movement in the event of a rope crossed-groove fault.

The closed loop servo control, primary DC failsafe motor disc brake, secondary output shaft DC failsafe disc brake, 2.8:1 gearbox service factor and 10:1 wire rope safety factor all combine to give the SP650 Servo hoist the very highest level of safety compliance.

Jands SP650 Servo Hoists are designed to meet the safety factor and braking requirements of German safety regulation BGV-C1, and are designed, built and tested to comply with the requirements for a serial hoist to AS1418.

## OVERALL SPECIFICATIONS

Hoist classification	:	M3 to AS1418
Hoist type	:	Motorised grooved drum
Drum diameter	:	265mm (nominal)
Max. lift capacity	:	650kg
Max. lift speed (S3 duty cycle)	:	
650kg payload	:	0.75m/s
400kg payload	:	1.5m/s
250kg payload	:	2.0m/s
Min. lift speed (S3 duty cycle)	:	
650kg payload	:	1.0mm/s
250kg payload	:	0.1mm/s
Number of ropes	:	6
SWR capacity	:	20m per rope
SWR type	:	6mm 6x19FC 13kN MBS
SWR safety factor	:	10:1
Encoder type	:	Siemens Serial-absolute "Drive-Click" connection
Motor	:	
Type	:	Synchronous Servomotor
S1 duty cycle torque	:	13.9Nm
S3 duty cycle torque	:	27Nm
Supply voltage	:	270V
Supply current	:	10.6 to 19A
Speed (nominal)	:	3000 rpm
Speed (maximum)	:	5000 rpm
Braking system	:	
- Primary dynamic	:	Closed loop servo control
- Secondary dynamic	:	Failsafe motor disc brake
- Tertiary dynamic	:	Failsafe output disc brake
- Primary static	:	Failsafe motor disc brake
- Secondary static	:	Failsafe output disc brake
Limit switch	:	
Standard	:	4 pole Stromag rotary cam
Optional	:	6 pole Stromag rotary cam
Gearbox	:	
Type	:	2 stage parallel helical
Ratio (i)	:	25.23:1
Service factor (fB <sub>2</sub> )	:	2.8
Max torque (Ma <sub>2</sub> )	:	2400Nm

