Extension Boom



Extension Boom Servo Arms



KSHAEB Floor – Floor mounted



KSHEB Overhead – Overhead rail mounted

Extension Boom Servo Arm models: KSHEB / KSHAEB – 250 / 350 / 500 / 750 / 1000-2401

Knight **KSHEB** (overhead carriage mounted) and **KSHAEB** (floor mounted) are **Intelligent Assist Devices (IADs)** that let the operator reach beyond the area directly below the rail system and position loads precisely along the "Z" (vertical) axis with high speed and outstanding reliability. The system allows non-linear overhead movement within a flexible reach envelope at each workstation.

Knight Servo Hoist technology becomes an extension of the operator's natural movement, significantly increasing precision, responsiveness and repeatability – improving safety, productivity and overall quality. Key benefits: eliminates unnecessary motions, shortens response time and minimizes the effect of inertia on heavy loads.

* The overhead carriage is not included and is sold separately. Contact FullSharp for advice.

Overhead carriage mounted series (KSHEB): KSHEB250S-2401 | KSHEB350S-2401 | KSHEB500S-2401 | KSHEB750S-2401 | KSHEB1000S-2401

Floor mounted series (KSHAEB): KSHAEB250S-2401 | KSHAEB350S-2401 | KSHAEB500S-2401 | KSHAEB750S-2401 | KSHAEB1000S-2401

See custom servo applications in the Knight Global photo gallery.

General specifications

Mechanical

- Speed: up to 241 ft/min [60 m/min]
- Floor pedestal height: 2.4 m – 3.0 m
- Safety factor: 125%
- Fail-safe brake
- Redundant dual-chain design:
- Chain length: unlimited (standard 18 ft)
- Sealed worm gearbox
- H5 duty class – continuous duty cycle

Electrical

- 24 VDC, 2A supply – industry standard for custom tooling (grippers, vacuum cups, switches, sensors, lights…)
- Illuminated Run/Stop button
- 240 VAC, single phase, 50/60 Hz
- Payload & handle load sensing
- I/O capability:
- Status LEDs – green & blue push buttons
- Fault LED, twist-to-release Run/Stop button

Specifications – KSHEB series (overhead carriage mounted)

Model	Capacity lbs. [kg]	Max. speed fpm. [mpm]	Voltage / Phase
KSHEB250S-2401	250 lbs. [113 kg]	196.85 fpm. [60.0 mpm]	240V / 1 phase
KSHEB350S-2401	350 lbs. [158 kg]	241.00 fpm. [73.5 mpm]	240V / 1 phase
KSHEB500S-2401	500 lbs. [226 kg]	98.43 fpm. [30.0 mpm]	240V / 1 phase

Model	Capacity lbs. [kg]	Max. speed fpm. [mpm]	Voltage / Phase
KSHEB750S-2401	750 lbs. [340 kg]	123.03 fpm. [37.5 mpm]	240V / 1 phase
KSHEB1000S-2401	1,000 lbs. [453 kg]	82.02 fpm. [25.0 mpm]	240V / 1 phase

Specifications – KSHAEB series (floor mounted)

Model	Capacity lbs. [kg]	Max. speed fpm. [mpm]	Voltage / Phase
KSHAEB250S-2401	250 lbs. [113 kg]	196.85 fpm. [60.0 mpm]	240V / 1 phase
KSHAEB350S-2401	350 lbs. [158 kg]	241.00 fpm. [73.5 mpm]	240V / 1 phase
KSHAEB500S-2401	500 lbs. [226 kg]	98.43 fpm. [30.0 mpm]	240V / 1 phase
KSHAEB750S-2401	750 lbs. [340 kg]	123.03 fpm. [37.5 mpm]	240V / 1 phase
KSHAEB1000S-2401	1,000 lbs. [453 kg]	82.02 fpm. [25.0 mpm]	240V / 1 phase

Accessories

Servo controls



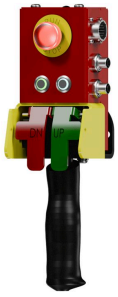
Inline handle with trigger KLCA1000 Weight: 6.81 kg | Capacity: 750–2,000 lbs Integrated LMM & OCI module; Programmable 750 lb load cell; Illuminated Float/Lift & Run-Stop buttons; Up to 4 M12 4-pin ports



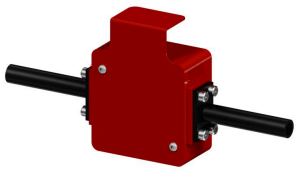
LMM + OCI module KLCA1002 Used with a pendant / fixture handle Programmable load sensor; Ethernet programming port; Up to 3 M12 4-pin I/O ports; Includes KSAA1004 shackle



LMM pass-through module KLCA1004 Used when the operator cannot reach the Run-Stop Ethernet programming port; 19-pin M23 input & output connectors; Includes KSAA1004 shackle; Used with a separate OCI (KCA1015)



2-speed handle + OCI KCA1033 Weight: 2.29 kg 2-speed control; 9-pin D-Sub programming port; Illuminated Float/Lift & Run-Stop buttons; Optional trigger configuration



Fixture-mounted load cell handle KCA1071 Weight: 4.96 kg Amplified 500 lbs load cell; No buttons to press – just grip the handle; Response force < 0.68 kg; 8-pin M12 cable included



Wireless remote control KCA1004 / 1005 / 1006 FCC Part-15 & CE compliant Signal range: 900 ft [300 m]; 62 programmable channels; AA batteries, > 100 hours; KCA1004: 4 buttons | 1005: 6 buttons | 1006: 8 buttons



Fixture-mounted OCI KCA1014 / KCA1015 Weight: 1.59 kg / 3.1 kg Mounts directly on the fixture; Illuminated LIFT, FLOAT & RUN-STOP buttons; KCA1014: rear cable exit | KCA1015: side cable exit



2-speed handle (non-programmable) EPDA9600 Weight: 1.13 kg 2 thumb levers – 4 switches; Half travel = speed 1 | Full travel = speed 2; IP67 | UL Listed, CE Approved



2-speed handle + trigger EPDTA9600 Weight: 1.27 kg 2 thumb levers + 1 trigger; 5 switches in total; IP67 | UL Listed, CE Approved

General accessories



Precision chain wear gauge KSAA1003 Weight: 0.39 kg Gauges 4mm & 5mm zinc-plated chain; Durable steel construction



SDS servo replacement chain kit KDSA1010 / KDSA1011 Standard length 12–18 ft KDSA1010 (4mm): 200–500 lbs capacity; KDSA1011 (5mm): 350–1,000 lbs capacity; Heat-treated, electro-galvanized chain



Quick-connect / quick-release hook KSAA1001 / KSAA1002 Max. capacity: 680–907 kg Quick release via release pin; KSAA1001: 16mm | KSAA1002: 20mm; Heat-treated alloy steel



Shackle KSAA1004 Max. capacity: 453 kg [1,000 lbs] 4140 steel body, heat-treated to Rockwell C 38-42; Secured with 2 M6 steel pins; Mounts below the load cell



Swivel hook shackle KSAA1007 Weight: 2.08 kg | Capacity: 453 kg Large connection hole for a swivel hook; Includes KSAD1022 swivel hook; Heat-treated 4140 steel



Locking swivel hook KSAD1022 Weight: 0.72 kg | Capacity: 1,451 kg Grade 100 – 20% stronger than Grade 80; Self-locking under load; Anti-friction bearing, 360° swivel



Servo hoist rail brake KSAA1011 Weight: 2.72 kg Locks the hoist in place on the rail; Pneumatic brake – front or rear mounting; Replaceable brake pads

Load trolleys



Load trolley – RAD7510 rail KSAA1050 Max. capacity: 1,134 kg | Weight: 4.31 kg High-impact glass-filled nylon wheels; Double-shielded bearings, no lubrication required; –29°C to +120°C



Load trolley – RAD6110 rail KSAA1059 Max. capacity: 725 kg | Weight: 3.45 kg High-impact glass-filled nylon wheels; Double-shielded bearings, no lubrication required; –29°C to +120°C



Load trolley – RAD4110 rail KSAA1048 Max. capacity: 408 kg | Weight: 2.04 kg High-impact glass-filled nylon wheels; Double-shielded bearings, no lubrication required; –7°C to +120°C

Electrical cables



Coiled cable KCA1040 Manufactured exclusively for Knight Global Coils around the servo hoist chain; 19-pin military bayonet connector; Length: 2–20 ft



Straight cable KCA1041 Manufactured exclusively for Knight Global Connects the handle to the servo hoist; 19-pin military bayonet connector; Length: 2–15 ft



4 & 8-pin micro switch cables CALL Contact FullSharp to order Gray PVC, 22 AWG, 4A, 300V; Straight or 90° right-angle connector; Length: 1–6 m

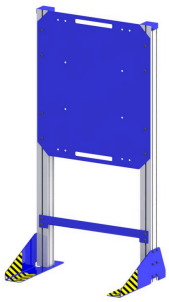
Enclosures & disconnects



3KVA disconnect enclosure KCA1018
Converts 480VAC → 240VAC; Finger-safe 3KVA transformer; 15A primary & secondary breakers; For KSH250S–KSH1000S



5KVA disconnect enclosure KCA1055
Converts 480VAC → 240VAC; Finger-safe 5KVA transformer; 25A primary & secondary breakers; For dual/triple servo systems



Disconnect enclosure stand KCA1001
Holds the enclosure at an ergonomic height; Multiple height settings; M10×1.5 Nylock bolts

Technical documents

Catalogs

- Arms Brochure – Servo Arms PDF
- Servo Systems Brochure PDF
- Industry 4.0 Capabilities PDF

Spec sheets / CAD

- KSHAEB Servo Arm – Spec Sheet / CAD PDF
- KSHEB Servo Arm – Spec Sheet / CAD PDF

Installation guides

- Eye Bolt Safety Cable – Installation Guide PDF
- Safety Cable – End Trucks, Hangers, Trolleys PDF
- Servo System Inspection Checklist PDF

Operation manual & software

- SDS Servo System Operation Manual v02.2025 PDF
- Knight Servo Configuration Software ZIP

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Specifications may vary with the ordered configuration. Please contact FullSharp for exact details.