Extension Servo Arms





KSHAEA Floor – Floor mounted



KSHEA Overhead – Overhead rail mounted

Extension Servo Arm models: KSHEA / KSHAEA – 250 / 350 / 500 / 750-2401

Knight **KSHEA** (overhead carriage mounted) and **KSHAEA** (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 extension arm allows flexible, non-linear movement within a work cell or production station.

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. Contact a FullSharp representative for details.

Overhead Carriage Mounted series: KSHEA250S-2401 | KSHEA350S-2401 | KSHEA500S-2401 | KSHEA750S-2401

Floor Mounted series: KSHAEA250S-2401 | KSHAEA350S-2401 | KSHAEA500S-2401

General specifications

Mechanical

- Speed: up to 241 ft/min [74 m/min]
- Floor pedestal height (KSHAEA): 2.4 m – 3.0 m
- Safety factor: 125%
- Fail-safe brake
- Redundant dual-chain design:
- Chain length: unlimited (standard 5.5 m / 18 ft)
- Sealed worm-style gearbox
- H5 duty class – continuous duty cycle

Electrical

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

Specifications – KSHEA series (overhead carriage mounted)

Model	Capacity lbs. [kg]	Max. speed fpm. [mpm]	Voltage / Phase
KSHEA250S-2401	250 lbs. [113 kg]	196.85 fpm. [60.0 mpm]	240V / 1 phase
KSHEA350S-2401	350 lbs. [158 kg]	241.00 fpm. [73.5 mpm]	240V / 1 phase
KSHEA500S-2401	500 lbs. [226 kg]	98.43 fpm. [30.0 mpm]	240V / 1 phase
KSHEA750S-2401	750 lbs. [340 kg]	123.03 fpm. [37.5 mpm]	240V / 1 phase

Specifications – KSHAEA series (floor mounted)

Model	Capacity lbs. [kg]	Max. speed fpm. [mpm]	Voltage / Phase
KSHAEA250S-2401	250 lbs. [113 kg]	196.85 fpm. [60.0 mpm]	240V / 1 phase
KSHAEA350S-2401	350 lbs. [158 kg]	241.00 fpm. [73.5 mpm]	240V / 1 phase
KSHAEA500S-2401	500 lbs. [226 kg]	98.43 fpm. [30.0 mpm]	240V / 1 phase

Configuration guide

KSHAEA Floor Mounted – Application definition process

When selecting a Knight servo control system, several factors must be defined before choosing the right configuration. Contact the FullSharp engineering team for detailed advice and a configuration worksheet.

1. **System configuration:** The KSHAEA series comes with either an inline handle or a remote handle – choose one; they cannot be used together.
2. **Lifting capacity:** Include the weight of the tooling and the part when selecting the model.
3. **System type:** Patented dual safety chain (Safety Drop Stop Chain).
4. **Coiled cable length:**
5. **Trolley:** The suspension cannot be a single point. If a trolley is already in place, the EBD1127 adapter plate is supplied free of charge.
6. **Lift controls:**
7. **Plant power supply:** The servo runs on 240 VAC single phase. If only 480 VAC is available, a 480/240 VAC transformer must be ordered.

Accessories

Servo controls



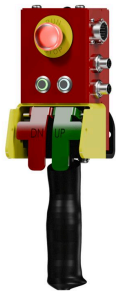
Inline handle with trigger KLCA1000 Weight: 6.81 kg | Capacity: 750–2,000 lbs Integrated LMM & OCI module; Programmable 750 lb load cell; Illuminated Float/Lift & Run-Stop buttons; Up to 4 M12 4-pin ports



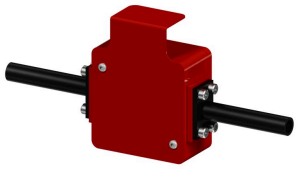
LMM + OCI module KLCA1002 Used with a pendant / fixture handle Programmable load sensor; Ethernet programming port; Up to 3 M12 4-pin I/O ports; Includes KSAA1004 shackle



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 Durable steel construction; Gauges Knight 4mm & 5mm zinc-plated chain



SDS servo replacement chain kit KDSA1010 / KDSA1011 Max. capacity: 500–1,000 lbs KDSA1010 (4mm): KSH250S–500S (200–500 lbs); KDSA1011 (5mm): KSH350S–1000S (350–1000 lbs); Heat-treated, electro-galvanized steel



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



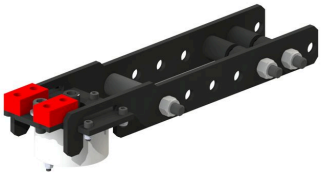
Shackle KSAA1004 Max. capacity: 453 kg [1,000 lbs] 4140 steel body, heat-treated to Rockwell C 38–42; Secured with 2 M6 steel pins; Mounts below the load cell



Swivel hook shackle KSAA1007 Weight: 2.08 kg | Capacity: 1,000 lbs 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

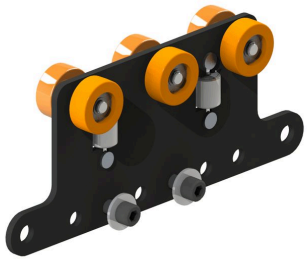
Load trolleys



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 (KCA1040-2 → -20)



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



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

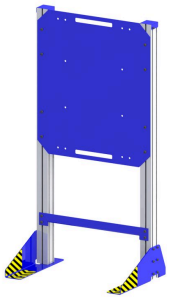
Enclosures & disconnects



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

- KSHAEA Servo Arm – Spec Sheet / CAD PDF
- KSHEA Servo Arm – Spec Sheet PDF

Installation guides

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

Operation manual

- SDS Servo System Operation Manual v.02 PDF

Software

- Knight Servo Configuration Software ZIP

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Authorized distributor of Knight Global lifting equipment in Vietnam — VSIP Hai Phong
Contact FullSharp for a quotation and advice on the right system configuration for your project.

Contact us for consultation and a quotation

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