

B-Track | Features

Rugged Duty Actuators

Key Features

- Weather-tight sealed
- Patented in-line load transfer
- Heavy wall rod and cover tube
- High performance motors
- Up to 2,200 lb. capacity

Standard Models

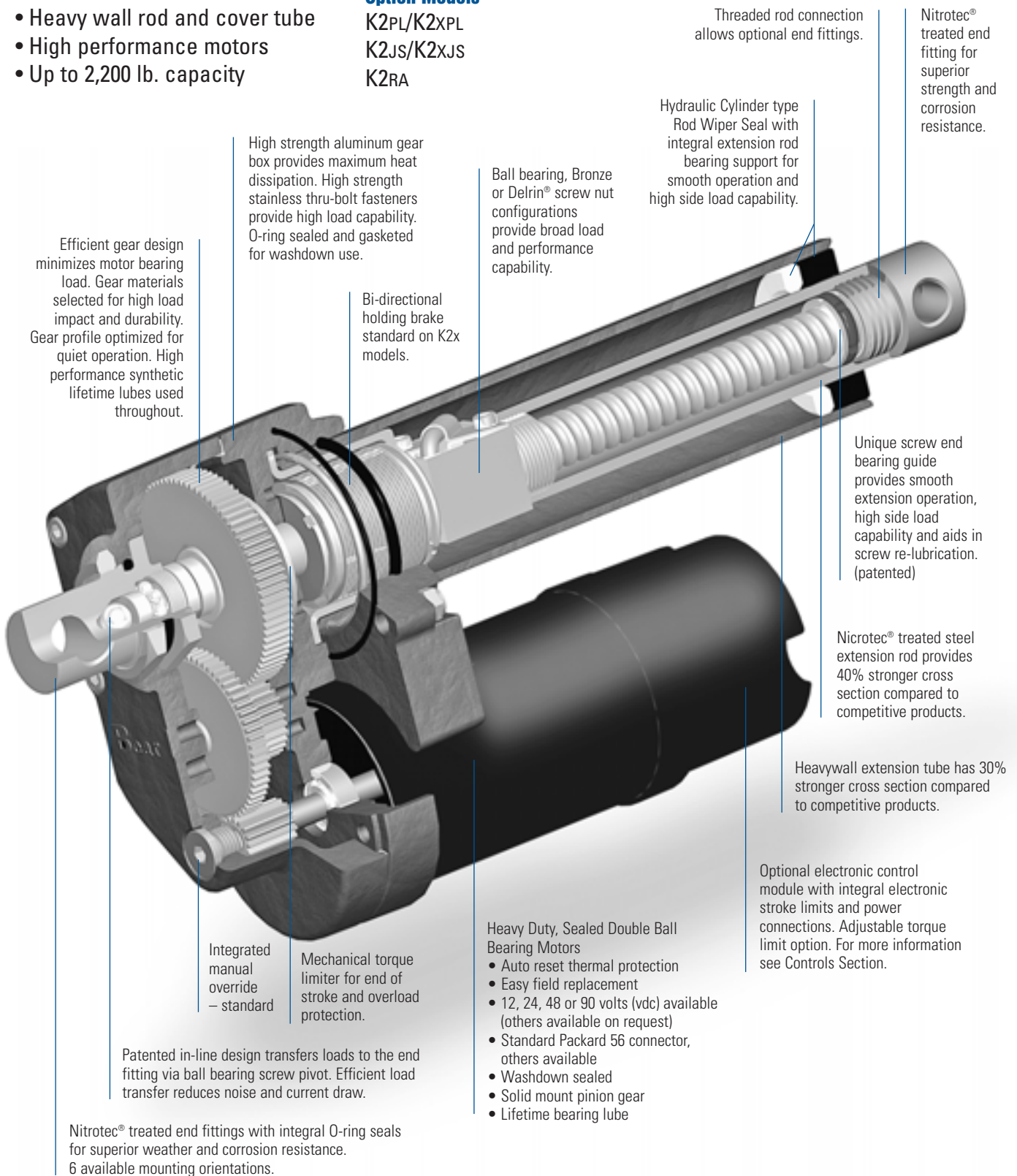
K2VL, K2, K2X

Option Models

K2PL/K2XPL

K2Js/K2XJs

K2RA



Efficient gear design minimizes motor bearing load. Gear materials selected for high load impact and durability. Gear profile optimized for quiet operation. High performance synthetic lifetime lubes used throughout.

High strength aluminum gear box provides maximum heat dissipation. High strength stainless thru-bolt fasteners provide high load capability. O-ring sealed and gasketed for washdown use.

Bi-directional holding brake standard on K2x models.

Ball bearing, Bronze or Delrin® screw nut configurations provide broad load and performance capability.

Hydraulic Cylinder type Rod Wiper Seal with integral extension rod bearing support for smooth operation and high side load capability.

Threaded rod connection allows optional end fittings.

Nitrotec® treated end fitting for superior strength and corrosion resistance.

Unique screw end bearing guide provides smooth extension operation, high side load capability and aids in screw re-lubrication. (patented)

Nitrotec® treated steel extension rod provides 40% stronger cross section compared to competitive products.

Heavywall extension tube has 30% stronger cross section compared to competitive products.

Optional electronic control module with integral electronic stroke limits and power connections. Adjustable torque limit option. For more information see Controls Section.

- Heavy Duty, Sealed Double Ball Bearing Motors
- Auto reset thermal protection
 - Easy field replacement
 - 12, 24, 48 or 90 volts (vdc) available (others available on request)
 - Standard Packard 56 connector, others available
 - Washdown sealed
 - Solid mount pinion gear
 - Lifetime bearing lube

Mechanical torque limiter for end of stroke and overload protection.

Integrated manual override – standard

Patented in-line design transfers loads to the end fitting via ball bearing screw pivot. Efficient load transfer reduces noise and current draw.

Nitrotec® treated end fittings with integral O-ring seals for superior weather and corrosion resistance. 6 available mounting orientations.

How To Select

Step 1 – Determine Load and Stroke length requirements

Use the Quick Selection guide to identify the model family that will provide the load capacity and stroke length needed for your application.

Step 2 – Determine Gear Ratio

Select gear ratio from performance curves for allowable current draw and needed load.

Step 3 – Identify motor type and voltage

Select DC motor and motor voltage.

Step 4 – Motor Type

Select M for ignition protected motor. Select needed motor voltage.

Step 5 – Confirm the application Duty Cycle

At full load capacity, actuators have a 25% duty cycle. Duty cycle is the amount of 'on-time' compared to cooling time. A unit that runs for 15 seconds should be off for 45 seconds.

Step 6 – Select Nut Type

Select nut for unit selected. (K2x are all ball bearing).

Step 7 – Select Stroke Length

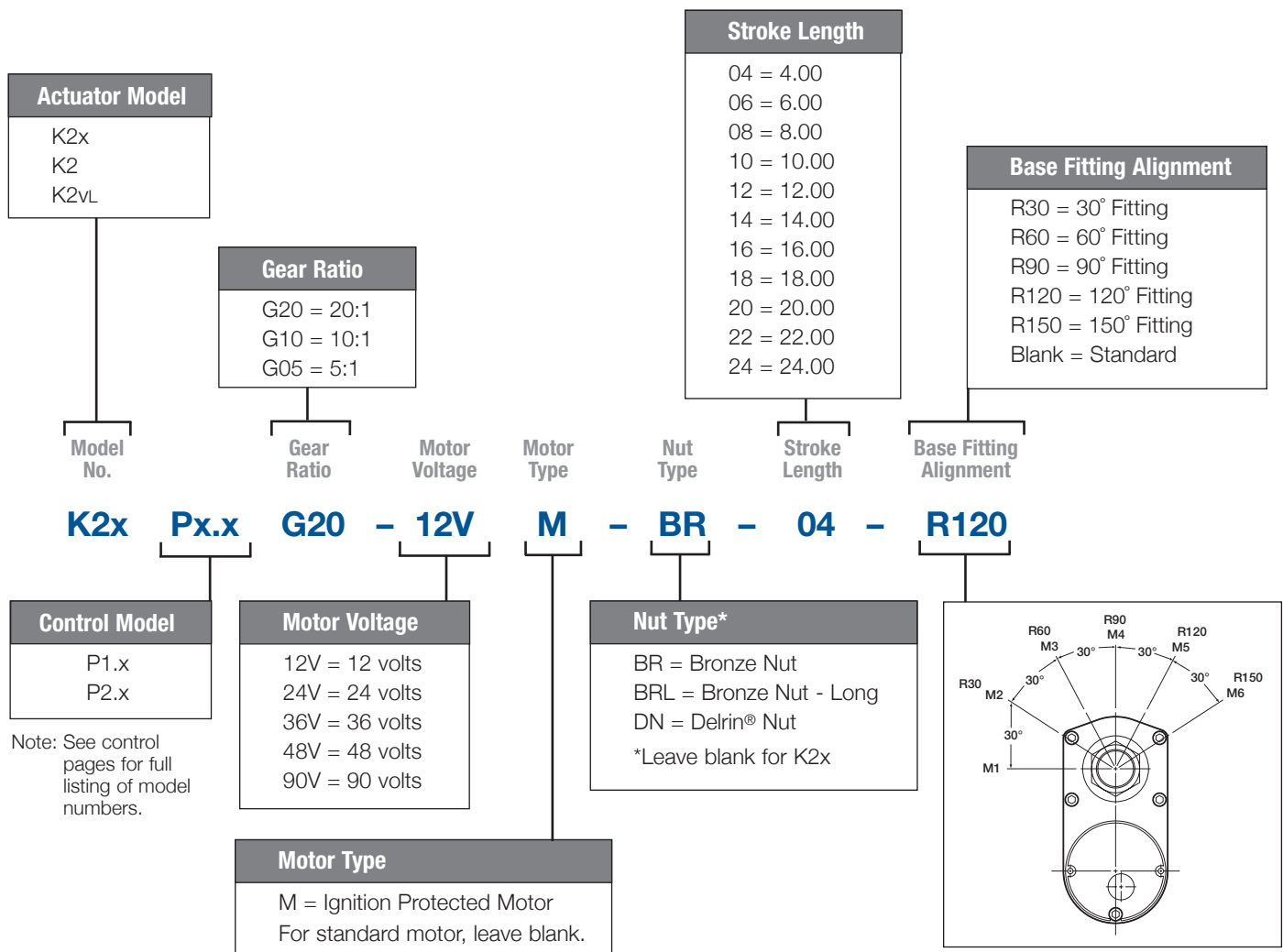
Choose standard lengths from chart. For special length consult factory.

Step 8 – Select end fitting orientation

Leave blank for standard orientation.

Important Unit Restrictions

Side loading and shock loads must be considered in actuator applications. Side loading and cantilevered mounting should be eliminated through proper machine design. Side loading will dramatically reduce unit life. While actuators can withstand limited shock loads, it is recommended that shock loading be avoided wherever possible. (See page 35)



Rugged Duty Actuator DC Motor Acme Screw

Up to 600 lbs. Rated Load

Up to 2.7 in./sec. Travel Speed



This value model of the B-track family is well suited for the toughest applications not needing the full load capability of standard K2 models. The K2vL uses a flange bronze bearing configuration for internal load transfer, offering the lowest cost while maintaining the rugged-duty performance capabilities of the B-track family.

K2vL units feature Nicrotec® corrosion protection on end fittings and rods, high performance powder coat paint on cover tubes and gear box covers, providing a totally sealed, weatherproof, and durable finish for years of trouble-free service.

Features

- Protective coatings and O-ring seals throughout
- Hybrid nut and screw design, no brake needed
- Ball detent overload clutch
- 2 to 24 inch stroke lengths
- Up to 600 pound load capacities
- Speeds up to 2.7 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors
- Heat treated gears
- Rugged extension rod bearing support
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Flow gate open/close
- Deck and implement lifts for tractors and mobile applications
- Wheelchair and scooter lifts
- Bin and tank cover lifts
- Remote engine clutch engagement

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
 - Refer to performance chart for load/current/speed capabilities
 - Stroke Length Tolerance: +/- .06"
 - Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
 - Overload clutch setting: +25% over rated dynamic load
 - Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability
- (Load/stroke profiles will allow some adjustment variation from these guidelines.)

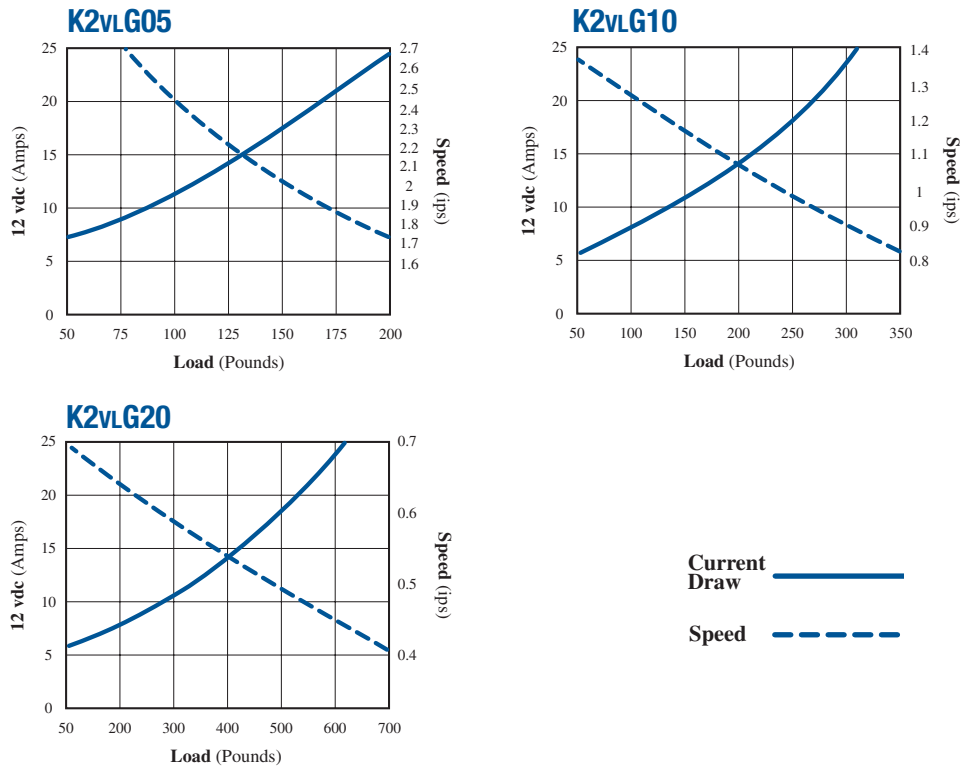
Operating Environment

- Ambient temp range: -30°F to 150°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

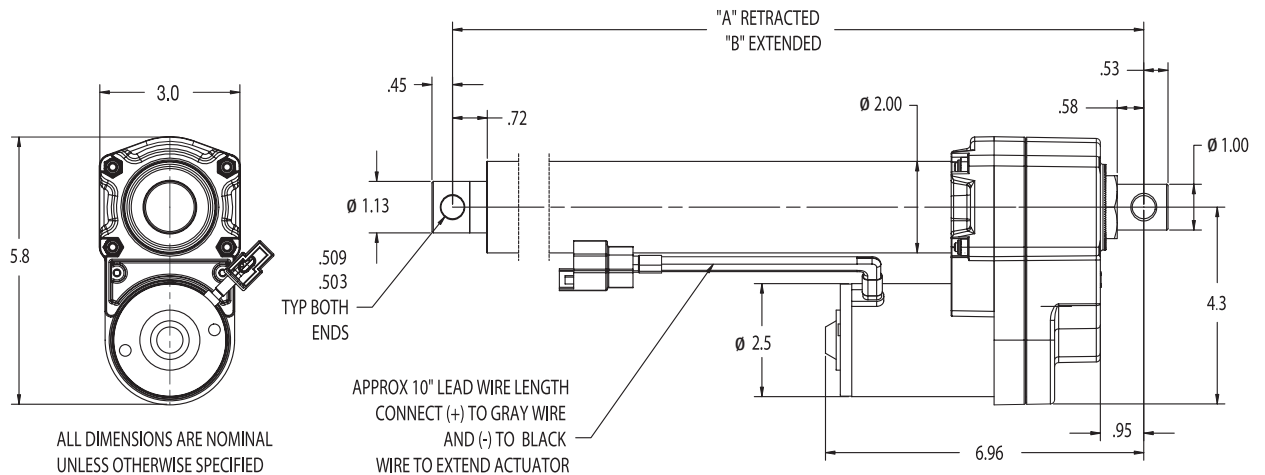
Performance Curves



Dimensions

B-Track K2vL	Stroke	2	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in	in
A		8.32	10.32	12.32	14.32	16.32	18.32	20.32	22.32	24.32	29.32	31.32	33.32
B		10.32	14.32	18.32	22.32	26.32	30.32	34.32	38.32	42.32	49.32	53.32	57.32

Note: Special lengths available



B-Track | K2

Rugged Duty Actuator DC Motor Acme Screw Up to 1200 lbs. Rated Load Up to 2.7 in./sec. Travel Speed



Shown with optional BTC control

The K2 is the base model in the B-Track family. It incorporates a patented in-line load transfer design which provides high load capability for rugged-duty use, efficient power use, compact package size, excellent corrosion and washdown protection, and high performance synthetic lubrication for life, all at an affordable price.

The K2 uses a solid bronze or Delrin® nut with a rolled hybrid screw yielding high impact capability and long screw life. Heavy-duty double-ended ball bearing motors, hardened gears, O-ring seals and an extension rod bearing system that provides best in class capabilities.

Features

- Protective coatings and O-ring seals throughout
- Patented in-line load system
- Hybrid nut and screw design, no brake needed
- Ball detent overload clutch
- 2 to 24 inch stroke lengths
- Up to 1200 pound load capacities
- Speeds up to 2.7 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Heavy duty platform and engine lifts
- Deck and implement lifts for tractors and mobile applications
- Wheelchair and scooter lifts
- Bin and tank cover lifts
- Flow gate open/close
- Table positioning

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability(Load/stroke profiles will allow some adjustment variation from these guidelines.)

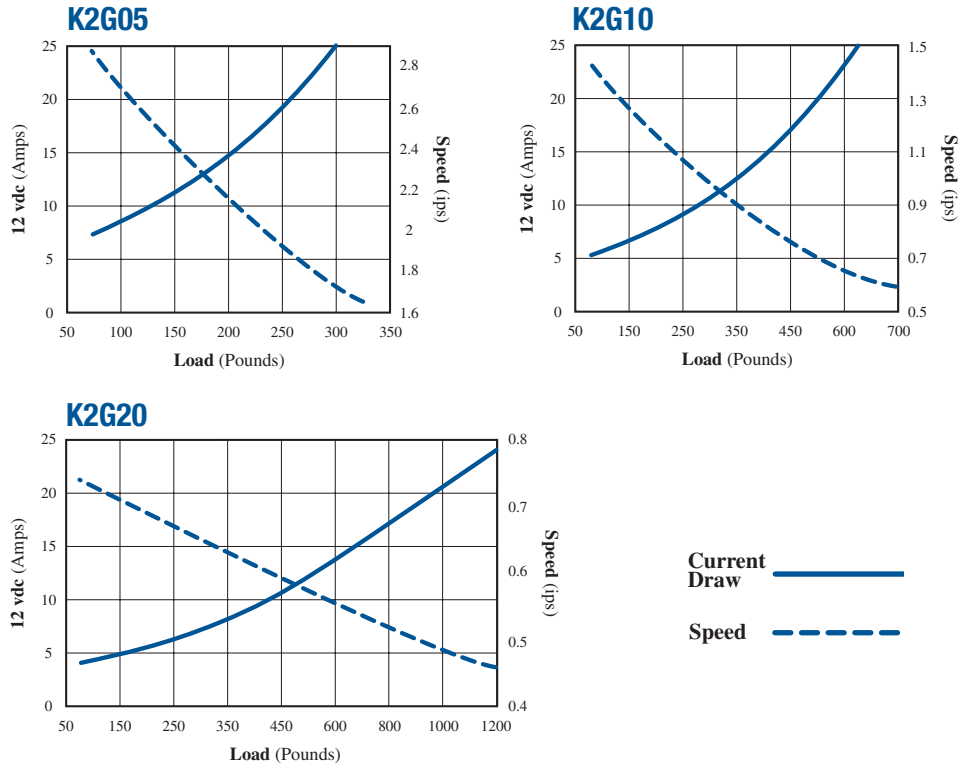
Operating Environment

- Ambient temp range: -30°F to 150°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

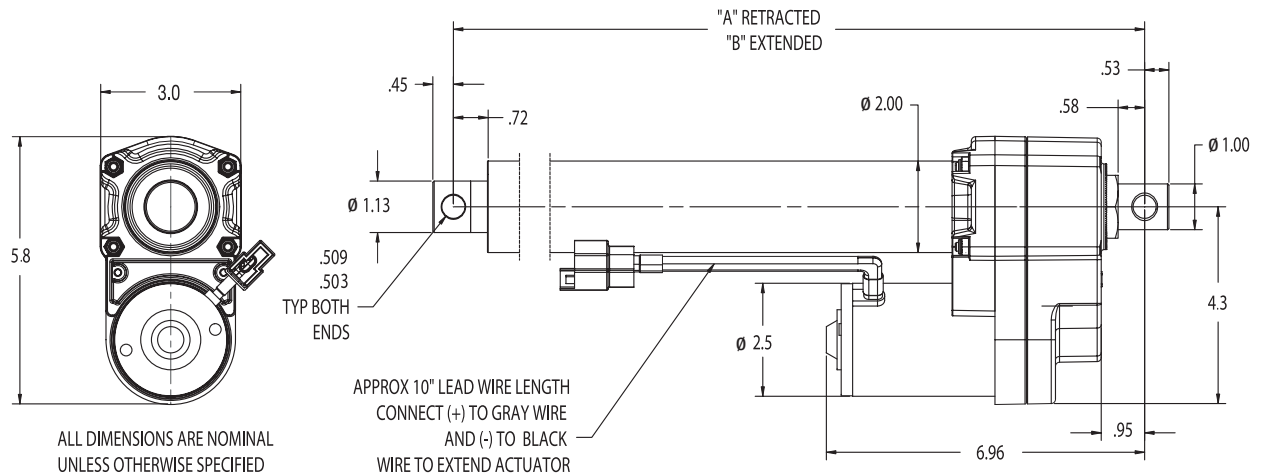
Performance Curves



Dimensions

B-Track K2	Stroke	2	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in	in
A		8.32	10.32	12.32	14.32	16.32	18.32	20.32	22.32	24.32	29.32	31.32	33.32
B		10.32	14.32	18.32	22.32	26.32	30.32	34.32	38.32	42.32	49.32	53.32	57.32

Note: Special lengths available



B-Track | K2x

Rugged Duty Actuator DC Motor Ball Screw

Up to 2,200 lbs. Rated Load

Up to 2.7 in./sec. Travel Speed



The K2x model provides the highest load rating in its class. This model incorporates all of the base K2 features with a ball nut screw for a 2,200 lb. load capability within a compact package size. The K2x includes a bi-directional wrap spring brake for load holding capability. These units are well suited for the most demanding applications where an alternative to hydraulic or air cylinders is needed or where hydraulic power sources are not available.

Combining the K2x actuator with BTc control functionality results in precision actuator control at a fraction of the cost of more complicated servo actuator systems. See Controls Section for more information on BTc controls.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line ball screw system
- Integral load holding brake
- Ball detent overload clutch
- 2 to 24 inch stroke lengths
- Up to 2,200 pound load capacities
- Speeds up to 2.7 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Paving equipment
- Deck and implement lifts for tractors and mobile applications
- Spray booms
- Scissor and dump box lifts

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
- Refer to performance chart for load/current/speed capabilities
- Stroke Length Tolerance: +/- .06"
- Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
- Overload clutch setting: +25% over rated dynamic load
- Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability

(Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 150°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

B-Track | K2PL / K2XPL

Power Lift Actuator DC Motor – Acme or Ball Screw

Up to 2,200 lbs. Rated Load

Up to 2.1 in./sec. Travel Speed



Shown with optional direct drive manual override feature without protective cap.



B-Track Power Lift models are modified K2 or K2x actuators. Power Lift units utilize all the standard components and retain all the performance features of the K2 family, without the external cover tube. This allows the Power Lift actuator features to be integrated into a variety of customer designed structures, where a cover tube is not needed.

Extended gear box screws are provided allowing easy attachment to a customer frame. A straight through manual override option is available as shown above.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line load system
- Patented hybrid nut and screw design, no brake needed in K2 model.
- Integral load holding brake on K2x model
- Ball detent overload clutch
- 2 to 24 inch stroke lengths
- Up to 2200 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Optional 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Wheelchair and scooter lifts
- Traffic signs
- Beds and tables
- Light masts

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
 - Refer to performance chart for load/current/speed capabilities
 - Stroke Length Tolerance: +/- .06"
 - Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
 - Overload clutch setting: +25% over rated dynamic load
 - Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability
- (Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -20°F to 150°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

See page 25 for K2PL performance curves.
See page 27 for K2xPL performance curves.

Dimensions

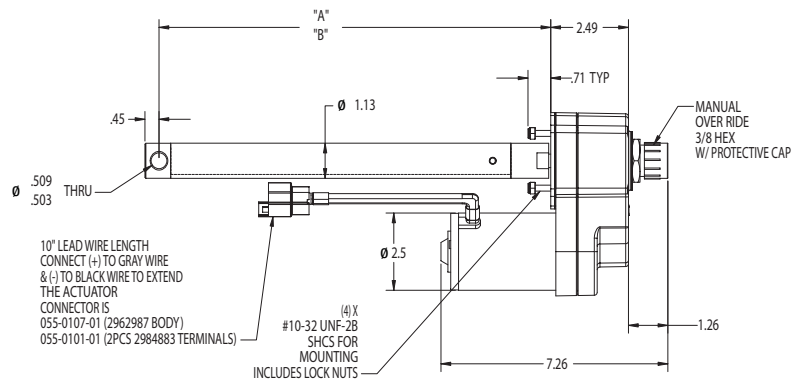
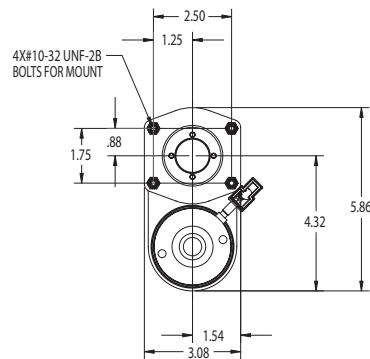
B-Track K2PL	Stroke	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in
A		7.03	9.03	11.03	13.03	15.03	17.03	19.03	21.03	23.03	25.03	27.03
B		14.06	18.06	22.06	26.06	30.06	34.06	38.06	42.06	46.06	50.06	54.06

Note: Special lengths available

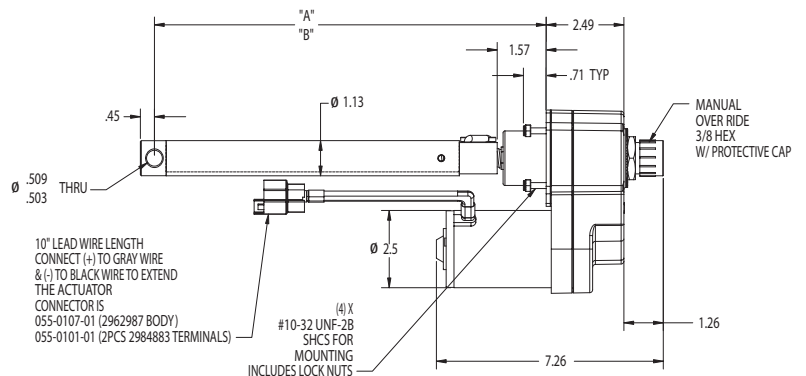
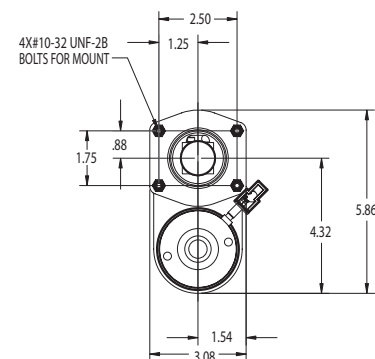
B-Track K2XPL	Stroke	4	6	8	10	12	14	16	18	20	22	24
		in	in	in	in	in	in	in	in	in	in	in
A		8.53	10.53	12.53	14.53	16.53	18.53	20.53	22.53	24.53	26.53	28.53
B		12.53	16.53	20.53	24.53	28.53	32.53	36.53	40.53	44.53	48.53	52.53

Note: Special lengths available

B-Track K2PL



B-Track K2XPL



B-Track | K2Js / K2xJs

Jack Stand Actuator DC Motor – Acme or Ball Screw

Up to 2,200 lbs. Rated Load

Up to 2.1 in./sec. Travel Speed



*Shown with optional
switch box, direct drive
manual override, and
footpad.*



The B-Track Jack Stand actuator incorporates a large diameter extension rod providing the maximum offset load capability within the K2 family. The extension rod is slightly smaller than the cover tube and slides on Teflon® bearings within the cover tube. This feature makes the K2Js suitable for large load free-standing use.

A number of mounting options are available including trunnion mounts, or with standard flange plate (as shown). These units can be customized with an integral switch box, direct drive manual override, or pivoting footpad.

Features

- Protective coatings and O-ring seals throughout
- Efficient in-line ball screw system
- Integral load holding brake on K2x model
- Ball detent overload clutch
- 8 to 24 inch stroke lengths
- Up to 2,200 pound load capacities
- Speeds up to 2.1 in./sec. travel
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged extension rod bearing support
- Option 90 vdc motor for use with SBC-AC control
- Custom mounting options available

Typical Applications

- Trailer jack stands
- Trailer and vehicle outriggers
- Implement lifts
- Machine height adjustment
- Camper lifts
- Load Levelers

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
 - Refer to performance chart for load/current/speed capabilities
 - Stroke Length Tolerance: +/- .06"
 - Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
 - Overload clutch setting: +25% over rated dynamic load
 - Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability
- (Load/stroke profiles will allow some adjustment variation from these guidelines.)

Operating Environment

- Ambient temp range: -30°F to 150°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 10-16 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

- 14 gauge stranded lead wires-UL style 1230 w/PVC insulation Class F 105°C
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit for extend/retract operation. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

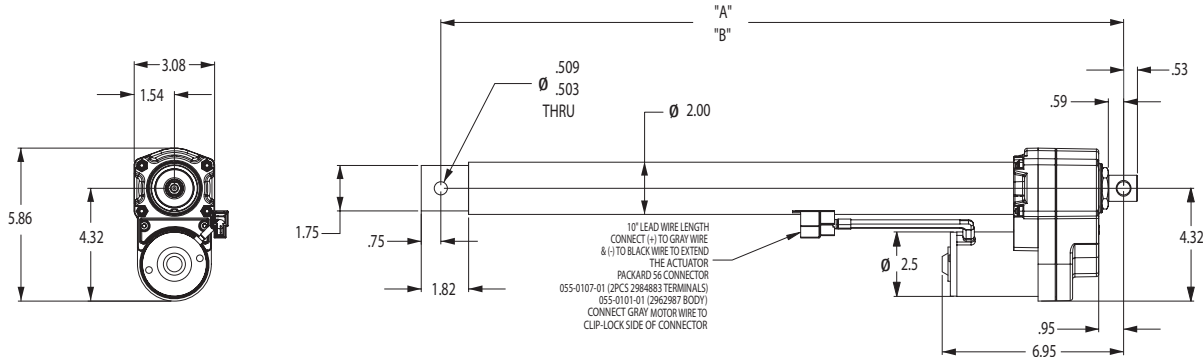
See page 25 for K2Js performance curves.
See page 27 for K2xJs performance curves.

Dimensions

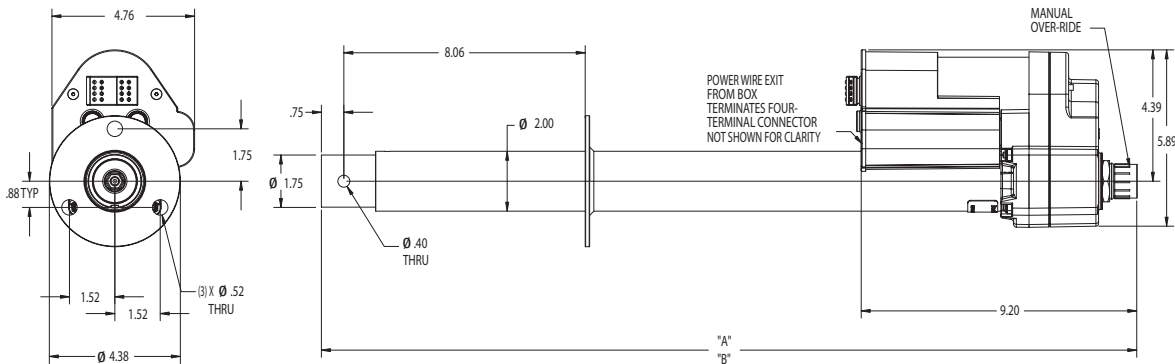
B-Track K2Js/K2xJs	Stroke	8	10	12	14	16
		in	in	in	in	in
A		20.98	22.98	24.98	26.98	28.98
B		28.98	32.98	36.98	40.98	44.98

Note: Special lengths available

B-Track K2Js



B-Track K2xJs



B-Track | K2RA

Rotary Actuator DC Motor

Up to 140 in-lb Torque Output
Speeds from 250 to 850 RPM



Shown with extended gear box screws for ease of attachment.



Optional Configurations



Features

- Protective coatings and O-ring seals throughout
- Efficient in-line load system
- Ball detent overload clutch
- Speeds up to 850 RPM
- Thermal overload incorporated into the motor
- Heavy wall construction
- Double ball bearing motors and heat treated gears
- Rugged output bearing support
- Customized mounting configurations available
- Optional 24 vdc motor available to provide more speed selections

Typical Applications

- Salt/seed spreaders
- Scooter lift mechanisms
- Spout rotation
- Turntables
- Cable winch

K2RA rotary actuators are motor driven gear boxes and use the base drive design and components of the K2 linear actuator. K2RA models incorporate all of the features of the K2 model providing excellent weatherproofing for outdoor applications. The same long-life motors, hardened gears, corrosion protection, and lubrication are utilized. Several output shaft and mounting configurations are available with the standard configuration shown above.

Load/Current/Speed/Duty Cycle

- Maximum Static Rating: 3000 lbs. Static (in-line load)
 - Refer to performance chart for current/speed capabilities
 - Motor is protected with auto reset breaker inside motor housing (temperature/current/time dependent)
 - Overload clutch setting: match customer requirements
 - Duty cycle is time/temperature/load dependent, suggested guidelines are:
 - 50% max on-time/50% off-time for loads up to 50% of capability
 - 25% max on-time/75% off-time for loads between 50%-80% of capability
 - 10% max on-time/90% off-time for loads between 80%-100% of capability
- (Load/RPM profiles will allow some adjustment variation from these guidelines.)

Operating Environment

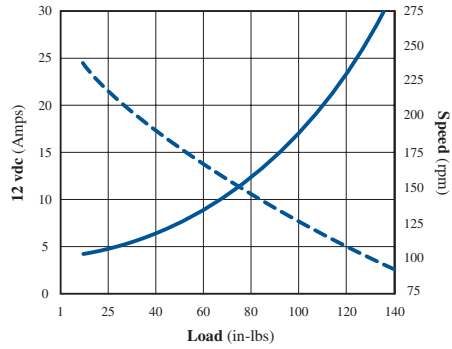
- Ambient temp range: -30°F to 150°F
- Weather resistant enclosure & seals (IP 65 capable, 250 hour salt spray, 500 hour for paint)
- Normal operating voltage: 12, 24, 36, 48 vdc (Ratings are at 12 vdc Normal.)

Control/Connections

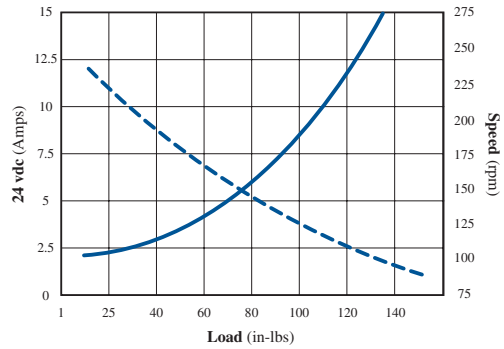
- 14 gauge stranded lead wires - SAE J1128 SXL cross linked polyethylene insulation Class F 257°F
- Lead wires abrasion protected with braided covering
- Use momentary contact double pole/double throw switch in powering unit. (ON)-OFF-(ON) DPDT
- Connectors:
 - Packard 56 series or Delphi Weather-Pack
 - Packard 56 series with 56 series blades (#2984883 & #2962987)
 - Delphi Weather-Pack series (#121015792 & #12010973)

Performance Curves

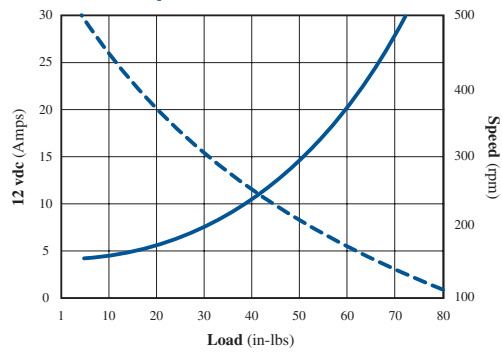
K2RA20 Speed & Load @ 12 VDC



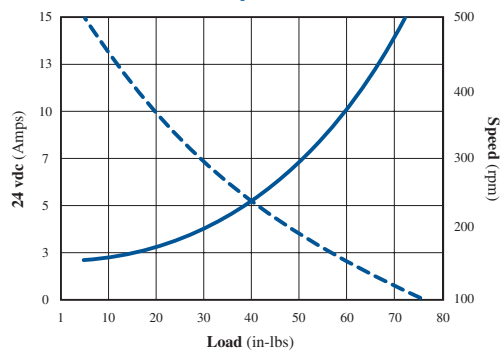
K2RA20 Load & Speed @ 24 VDC



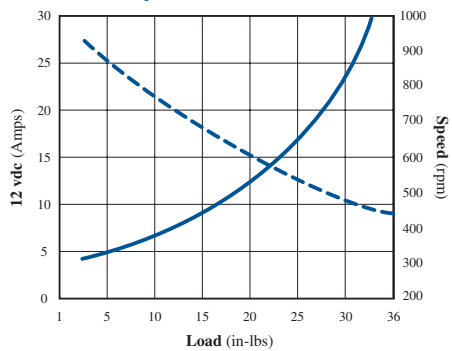
K2RA10 Speed & Load @ 12 VDC



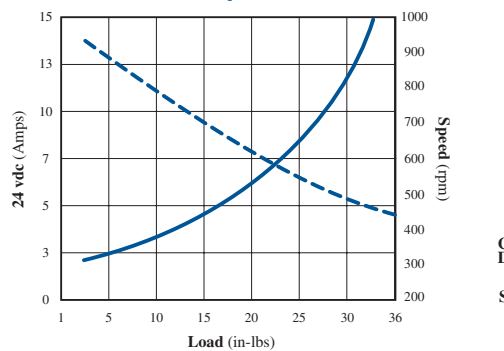
K2RA10 Load & Speed @ 24 VDC



K2RA5 Speed & Load @ 12 VDC



K2RA5 Load & Speed @ 24 VDC



Current Draw ———
Speed - - - - -

Dimensions

