Link-Belt
EARTHMOVING • FORESTRY
MATERIAL HANDLING EQUIPMENT

135

Spin Ace

Minimum Swing Radius

Operating Weight: 29,100 lbs (13 200 kg)
SAE Net Horsepower: 88 HP (65.6 kW)
Bucket Range: .50 - .96 yd^3 (.38 - .73 m^3)

LBX Company LLC

Operator's Control Station

Built for Tight Spaces

Confined space and restricted access don't necessarily mean limited productivity with the Link-Belt 135 Spin Ace minimum swing radius excavator. This machine opens opportunities to working within tight spaces while increasing the ability to maneuver safely and productively.

Low Noise Cab Design

Four silicon-filled isolation mounts "float the entire cab above the vibration of an already quiet machine", greatly reducing operator fatigue. Large entry door and access width makes entering and exiting the cab a breeze.

Best Seat at the Site

The KAB 515 seat adjusts to your size for comfort. The semi-bucket seat provides firm support and comfort with armrests, adjustable suspension, adjustable lumbar support, and durable urethane cushions. The seat slides independently of the control consoles to assure optimal joystick positions at all times. The entire platform can then be moved forward or backward for best foot pedal positioning.

Exceptional Visibility

This cab provides great visibility. Even the sunroof is large. Safety glass windows encompass the entire cab. With built-in washer and intermittent speed control, the wiper keeps your windshield clear, whatever the condition outside.

Standard Equipment A/C and Heat

Exceptional heating/cooling capabilities, for optimum operator comfort.

One-Touch Decelerator

You can choose to use the one-touch idling switch located at the top of the right controller so that you are always in control of fuel consumption. This function returns the excavator to and from idle.

AM/FM Stereo Radio

Standard equipment.

Control Panel

Machine function switches are concentrated in a panel in clear view and easy reach of the operator.

Control Pattern Selector Valve (CPSV)

Standard equipment control pattern selector valve makes it easy to quickly switch between SAE and ISO patterns. Easy access under cab floor mat.

Control Pattern Selector Valve - located in the floor of the cab

Comfort Accessories

Convenient vents to direct air at face, easy to reach cup holder, ash tray, cigarette lighter, and 12 volt accessory jack for your phone, two-way radio, etc.

Engine

Isuzu Engines

Known for their long-life and dependability, Isuzu engines are also extremely quiet and reliable with advanced technologies for maximum power and fuel efficiency. This engine, and all Link-Belt Spin Ace engines, meet EPA requirements for Tier II compliance.

Engine Product Support

Isuzu North America offers 24-hour access to their full line of engine parts through 2 regional distribution centers, 27 Master Distributors and 690 Authorized Service Dealers.

Undercarriage

MSR Undercarriage

Long LC undercarriages incorporate heavy duty excavator style components and improve both stability and ground bearing pressure. The modified X style carbody is integrally welded for maximum strength and durability. High torque compact final drives keep you going up steep grades and through deep mud.

Bearing Tub

Built into the "X" style carbody is the turn-table bearing "tub" which extends down through the top plate and is welded to the bottom of the carbody as well as the top for increased strength and durability.

Two-Speed Travel Motor

Offers smooth shifting and maximum torque when going up grades and making turns.

Strut Type Chain Links

There are no weak links in our chain. Struts reduce twisting and hold up to severe point loading when all of the machine weight is transferred through one roller.

Track Rollers

Filled with synthetic oil to reduce heat build up and for long term reliability.

Track Adjustment

Adjustments are made easy with standard grease cylinder track adjusters and shock absorbing idler springs.

Side Frames

Incorporate a peaked saddle shape and large cut-outs on top for reduced dirt build-up.

Optional Blade Attachment

Blade attachment is optional equipment on the 135 MSR. Working with the blade attachment down increases the lift capacities and stability of the machine.

Optional Rubber Tracks

Rubber tracks are optional with Link-Belt 75 and 135 Spin Ace® models. The latest in technology, these pads bolt right to the standard rail, offering easy replacement for a damaged shoe. Rubber tracks may be used on any terrain and are especially advantageous on paved surfaces such as curbing and driveways.

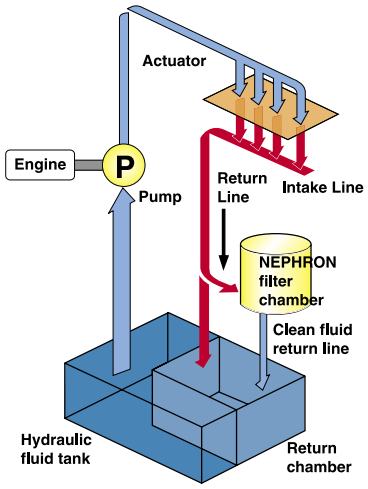
Reliability/Serviceability

Nephron® Filtration Extends the Service Life of the Hydraulic System

The Nephron® Filtration System eliminates contaminants of 1 micron or more in size. This significantly reduces hydraulic system breakdown and maintenance costs under normal usage. Less wear and tear on the hydraulic components means more years of reliable performance.

Nephron® Filter Advantages

1. Problems associated with hydraulic system contamination are substantially reduced. Machine down time and costs for repairing are saved as a consequence.
2. The interval of hydraulic oil replacement is extended to every 5000 hours.
3. The wear of hydraulic components is reduced, which lengthens the service life of the machine.

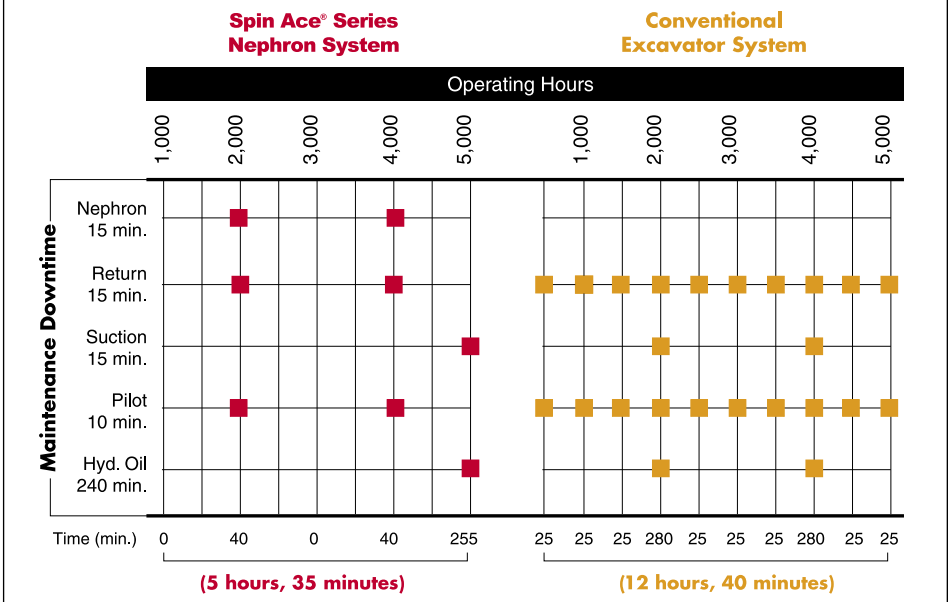


Hydraulic Fittings

"O" ring face seals are used as hydraulic connectors to assure tighter seals.

Air Conditioner Air Intake Filter

This filter lets in fresh clean air and is mounted on the outside of the cab, enabling easy cleaning and replacement.



This chart shows the Spin Ace® machine with the Nephron® filter vs. most other excavators. As you can see hydraulic fluid changes are reduced from every 2,000 hours to every 5,000 hours. Also, 22 filter changes on a typical excavator is reduced to 7 filter changes. All of this results in lower labor, downtime, and maintenance costs.

Improved Pin and Bushing Life

Chrome plated boom foot and boom to arm pins mounted in graphite stratified brass bushings make a durable and long lasting connection at the two highest stress points on the attachment. This also makes it possible to extend the lubrication interval on this type of pin to once every 6 months or 1,000 hours of operation, whichever comes first.

A. The surface of the bushing is stratified with a solid lubricant in hard brass to protect the parts from abrasion.

B. The pin's surface is plate-processed to increase hardness and protect from abrasion

C. The original dust seal is double-structured to keep out dust and dirt and protect from subsequent abrasion.

Improved pin and bushing design

Sealed Automotive Style Wiring Harness

Harnesses are sealed to eliminate dirt and moisture that can cause a circuit to short. Wiring is also color and number coded to make trouble shooting faster and easier.

Exceptional Customer/ Product Support

Your investment in the Link-Belt Spin Ace® Series Excavator is always protected. LBX Distribution is located from coast to coast; you're never far from quality service professionals. "Level Two" support takes the form of experienced factory service advisors, on-call at a moment's notice. And to expedite parts, LBX utilizes the proven parts system e-Spin…an on-line, around the clock parts distribution solution. You can be assured that we have the parts when you need them.

Specifications

Engine

Isuzu BB-4BG1T water cooled, 4-cycle diesel, 4 cylinder in-line, electronic engine control, 264 CID (4 330 cc), 4.13" (105 mm) bore x 4.92" (125 mm) stroke.

SAE net horsepower .... 88 HP (65.6 kW) @ 2,100 rpm
Max. torque..... 237 ft-lbs. (322 N-m) @ 1,600 rpm
Starter..... 24V (4.5 kW)
Alternator..... 50 amp
Battery cold cranking amps..... 650
Air cleaner ..... Double element
Fuel Usage*
Heavy ..... 3.1 gph (11.73 l/hr)
Average ..... 2.6 gph (9.84 l/hr)
Light..... 2.0 gph (7.57 l/hr)

*Fuel economy varies widely depending upon application.

The "Heavy" category represents nearly continuous operation in tough digging applications. The "Light" category represents applications that utilize the machine about 50% of the time, in easier digging.

Hydraulic System

Two variable displacement axial piston pumps and one gear pump for pilot controls.

Hydraulic Pumps
Two variable volume piston pumps provide power for attachment, swing and travel.

Maximum flow..... 2 x 30.9 gpm (2 x 117 l/min)
Pilot pump max. flow..... 5.7 gpm (21.5 l/min)

Relief Valve Settings
Boom/arm/bucket..... 4,970 psi (350 kg/cm^2)
Swing circuit..... 4,050 psi (285 kg/cm^2)
Travel circuit ..... 4,970 psi (350 kg/cm^2)

Hydraulic Cylinders
number of cylinders – bore x rod x stroke

Boom ..... 1– 4.1" x 3.0" x 44.1"
(105 mm x 75 mm x 1 120 mm)
Arm ..... 1 – 4.5" x 3.1" x 43.6"
(115 mm x 80 mm x 1 108 mm)
Excavator Bucket..... 1 – 3.7" x 2.6" x 34.7"
(95 mm x 65 mm x 881 mm)

Control Valve One 4-spool valve for left track travel, boom, bucket, and arm acceleration, and one 5-spool valve for right track travel, swing, boom acceleration, auxiliary spool, and arm.

Oil Filtration

Nephron® filter ..... 1 micron
Return and pilot filters..... 10 micron
Suction screen..... 105 micron

Cab and Controls

Cab mounted on 4 fluid filled mountings. Features include safety glass windows, sliding front window with auto-lock, windshield washer and wiper, heater, air-conditioner, AM/FM radio with auto tuner, floor mat, skylight window and right and rear side mirrors. KAB 515 operators seat with manual weight adjustment, seat height and tilt adjustment, adjustable headrest, backrest angle adjustment, adjustable pivoting arm rests and seat belt. Control Pattern Selector Valve. Reliable soft-touch switches.

Heater output..... 12,900 BTU/hr (3 250 kcal/hr)
A/C output..... 13,490 BTU/hr (3 400 kcal/hr)
Sound level (inside cab)..... 76 dB(A)
Sound level (exterior)..... 99 dB(A)

Swing

Fixed displacement axial piston motor. Internal ring gear with grease cavity for swing pinion. Swing bearing is single-row shear type ball bearing. Swing cushion valve and dual stage relief valves for smooth swing deceleration and stops. Mechanical disc swing brake.

Swing speed..... 0 – 10 rpm
Swing torque ..... 27,040 ft-lbs. (36.7 kN•m)
Tail swing ..... 4' 10" (1.48 m)
Overhang..... 7.28" (185 mm)

Undercarriage

X-style carbody is integrally welded for strength and durability. Grease cylinder track adjusters with shock absorbing springs. Undercarriage equipped with sealed track, lubricated rollers and idlers. Three-bar grouser track shoes.

Carrier rollers ..... 1 per side
Track rollers ..... 6 per side
Track link pitch ..... 6.75" (171.5 mm)
Shoes..... 43 per side
Shoe width ..... 23.6" (600 mm)
Ground pressure..... 5.22 psi (.37 kg/cm^2)

Travel System

Variable displacement axial piston motor. Mechanical disc brake. All hydraulic components mounted within the width of side frame.

Max. travel speed ..... 2.0/3.1 mph (3.2/5.0 km/h)
Traction force..... 25,850 lbs. (115 kN)
Gradeability..... 70%

Lubricant and Coolant Capacity

Hydraulic tank ..... 21 gal. (81 liters)
Hydraulic system..... 33 gal. (125 liters)
Final drive (per side)..... 7 gal. (2.5 liters)
Engine ..... 4.0 gal. (15 liters)
Fuel tank ..... 44 gal. (165 liters)
Cooling system..... 4.7 gal. (17.7 liters)

Attachment

Excavator Boom..... 15' 6" (4.73 m)

Available Arms	**Digging Force***
• 7' 10" (2.39 m).....	14,370 lbs. (6 518 kg)
• 9' 4" (2.85 m).....	13,400 lbs. (6 078 kg)

Bucket Digging Force* ..... 20,170 lbs. (9 149 kg)

**Digging forces will change with the addition of longer arms, thumbs, couplers and larger buckets.*

Optional Blade Attachment

Width ..... 8' 6" (2.59 m)
Height..... 1' 10" (570 mm)
Max. lift above ground ..... 1' 5" (440 mm)
Max. drop below ground..... 1' 9" (520 mm)

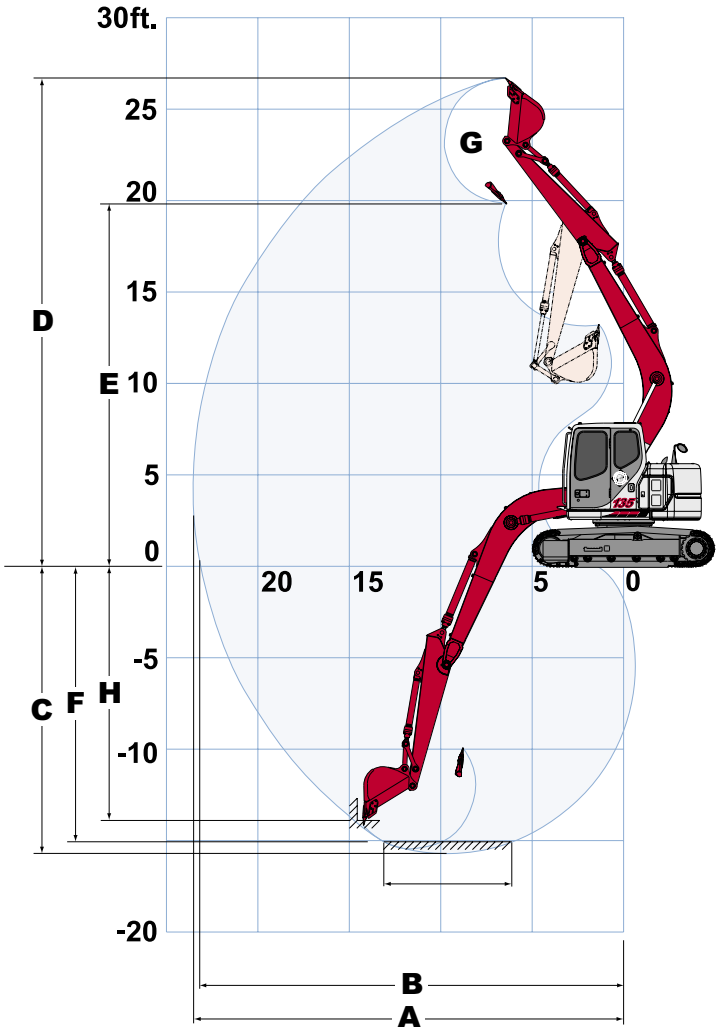
Operating Weight

Standard Excavator - Working weight with 23.6" (600 mm) shoes, 15' 6" (4.73 m) boom, 7' 10" (2.39 m) arm, 840 lb. (380 kg) bucket and 7,340 lb. (3 330 kg) ctwt. ... 29,100 lbs. (13 200 kg)

Specifications

Working Ranges

	Machine equipped with 15' 6" (4.73 m) boom.	7' 10" Arm (2.39 m)	9' 4" Arm (2.85 m)
A.	Max. digging radius	26' 11" (8.21 m)	28' 1" (8.57 m)
B.	Max. digging radius @ ground level	26' 6" (8.07 m)	27' 8" (8.43 m)
C.	Max. digging depth	17' 11" (5.47 m)	19' 5" (5.93 m)
D.	Max. digging height	30' 6" (9.31 m)	31' 3" (9.52 m)
E.	Max. dumping height	22' 8" (6.91 m)	23' 5" (7.13 m)
F.	Digging depth – 8' (2.44 m) level bottom	17' 3" (5.25 m)	18' 9" (5.72 m)
G.	Bucket wrist angle	178°	178°
H.	Max. vertical wall depth	15' 11" (4.85 m)	16' 8" (5.08 m)



Bucket Sizes

135 MSR

Bucket Type	Capacity	Width Outside Lip	Weight	# Teeth	Arm 7' 10" (2.39 m)	Arm 9' 4" (2.85 m)
ESCO STDP	.50 yd³ (.38 m³)	24" (610 mm)	791 lb. (359 kg)	4	H	H
	.66 yd³ (.50 m³)	30" (762 mm)	889 lb. (403 kg)	4	M	M
	.82 yd³ (.63 m³)	36" (914 mm)	1,007 lb. (457 kg)	5	L	L
	.98 yd³ (.75 m³)	42" (1 067 mm)	1,110 lb. (503 kg)	6	L	N/A
ESCO HDP	.50 yd³ (.38 m³)	24" (610 mm)	1,064 lb. (483 kg)	4	H	H
	.65 yd³ (.50 m³)	30" (762 mm)	1,183 lb. (537 kg)	4	M	L
	.81 yd³ (.62 m³)	36" (914 mm)	1,331 lb. (604 kg)	5	L	N/A
	.89 yd³ (.68 m³)	39" (991 mm)	1,390 lb. (631 kg)	5	L	N/A
ESCO DITCH	.86 yd³ (.66 m³)	60" (1 524 mm)	970 lb. (440 kg)	0	L	L
	.96 yd³ (.73 m³)	66" (1 676 mm)	1,040 lb. (472 kg)	0	L	N/A

Approval Code For Arm/Bucket Combinations:

H - Heavy material (up to 3,370 lbs./ yd³)
M - Medium material (up to 2,700 lbs./ yd³)
L - Light material (up to 2,020 lbs./ yd³)
N/A - Not applicable

Lifting Capacities 135 Spin Ace®

7' 10" (2.39 m) Arm

15' 6" (4.73 m) Boom and 879 lb. (398 kg) Bucket

Bucket Hook Height		Radius of Load									
		5' 0" (1.52 m)		10' 0" (3.05 m)		15' 0" (4.57 m)		20' 0" (6.10 m)		Cap. at Max. Reach	
		End	Side	End	Side	End	Side	End	Side	End	Side
+20' 0" (6.10 m)	**lbs.** kg					**6,150*** 2 780*	**6,150*** 2 780*			**4,600*** 2 080*	**4,600*** 2 080*
+15' 0" (4.57 m)	**lbs.** kg			**8,150*** 3 690*	**8,150*** 3 690*	**8,050*** 3 650*	**7,100** 3 220	**4,950*** 2 240*	**4,300** 1 950	**3,200*** 1 450*	**3,200*** 1 450*
+10' 0" (3.05 m)	**lbs.** kg			**14,400*** 6 530*	**12,950** 5 870	**9,600** 4 350	**6,650** 3 010	**5,950** 2 690	**4,100** 1 850	**3,250*** 1 470*	**3,250** 1 470
+5' 0" (1.52 m)	**lbs.** kg			**17,950** 8 140	**11,350** 5 140	**9,000** 4 080	**6,100** 2 760	**5,700** 2 580	**3,900** 1 760	**3,600*** 1 630*	**3,000** 1 360
Ground Line	**lbs.** kg			**17,000** 7 710	**10,550** 4 780	**8,550** 3 870	**5,700** 2 580	**5,500** 2 490	**3,700** 1 670	**4,200*** 1 900*	**3,000** 1 360
-5' 0" (1.52 m)	**lbs.** kg	**11,450*** 5 190*	**11,450*** 5 190*	**16,800** 7 620	**10,400** 4 710	**8,350** 3 780	**5,550** 2 510	**5,400** 2 440	**3,600** 1 630	**5,000** 2 260	**3,350** 1 510
-10' 0" (3.05 m)	**lbs.** kg	**17,900*** 8 110*	**17,900*** 8 110*	**15,200*** 6 890*	**10,600** 4 800	**8,400** 3 810	**5,600** 2 540			**6,450** 2 920	**4,350** 1 970
-15' 0" (4.57 m)	**lbs.** kg			**7,650*** 3 470*	**7,650*** 3 470*					**6,300** 2 850	**6,300** 2 850

9' 4" (2.85 m) Arm

15' 6" (4.73 m) Boom and 747 lb. (338 kg) Bucket

Bucket Hook Height		Radius of Load									
		5' 0" (1.52 m)		10' 0" (3.05 m)		15' 0" (4.57 m)		20' 0" (6.10 m)		Cap. at Max. Reach	
		End	Side	End	Side	End	Side	End	Side	End	Side
+20' 0" (6.10 m)	**lbs.** kg					**6150*** 2780*	**6150*** 2780*			**3700*** 1670*	**3700*** 1670*
+15' 0" (4.57 m)	**lbs.** kg					**7100*** 3220*	**7100*** 3220*	**5800*** 2630*	**4400** 1990	**3550*** 1610*	**3550*** 1610*
+10' 0" (3.05 m)	**lbs.** kg	**15300*** 6940*	**15300*** 6940*	**11750*** 5320*	**11750*** 5320*	**9650*** 4370*	**6800** 3080	**6000** 2720	**4200** 1900	**3650*** 1650*	**3000** 1360
+5' 0" (1.52 m)	**lbs.** kg			**17950*** 8140*	**11650** 5280	**9100** 4120	**6200** 2810	**5750** 2600	**3950** 1790	**4000*** 1810*	**2750** 1240
Ground Line	**lbs.** kg			**17000** 7710	**10600** 4800	**8550** 3870	**5700** 2580	**5450** 2470	**3700** 1670	**4100** 1850	**2750** 1240
-5' 0" (1.52 m)	**lbs.** kg	**10700*** 4850*	**10700*** 4850*	**16650** 7550	**10250** 4640	**8300** 3760	**5450** 2470	**5350** 2420	**3550** 1610	**4500** 2040	**3000** 1360
-10' 0" (3.05 m)	**lbs.** kg	**16300*** 7390*	**16300*** 7390*	**16650*** 7550*	**10350** 4690	**8250** 3740	**5450** 2470			**5650** 2560	**3750** 1700
-15' 0" (4.57 m)	**lbs.** kg			**10500*** 4760*	**10500*** 4760*					**7350** 3330	**6300** 2850

Notes: Excavator lifting capacities

1. Lifting capacities shown should not be exceeded. Weight of all lifting accessories must be deducted from the above lifting capacities.
2. Lifting capacities are based on machine standing on firm, uniform supporting surface. User must make allowances for job conditions such as soft or uneven ground.
3. Lifting capacities shown do not exceed 75% of minimum tipping loads or 87% of hydraulic capacities. Capacities marked with an asterisk (*) are limited by hydraulic capacities.
4. Least stable position is over the side.
5. Operator should be fully acquainted with the Operator's Manual & Operating Safety Booklet, furnished by LBX before operating the machine.
6. Capacities apply only to the machine as originally manufactured and normally equipped by LBX Company, LLC.
7. Lift capacity ratings are based on SAE J/ISO 10567, "Earthmoving Machinery – Hydraulic Excavators – Lift Capacity".

Specifications

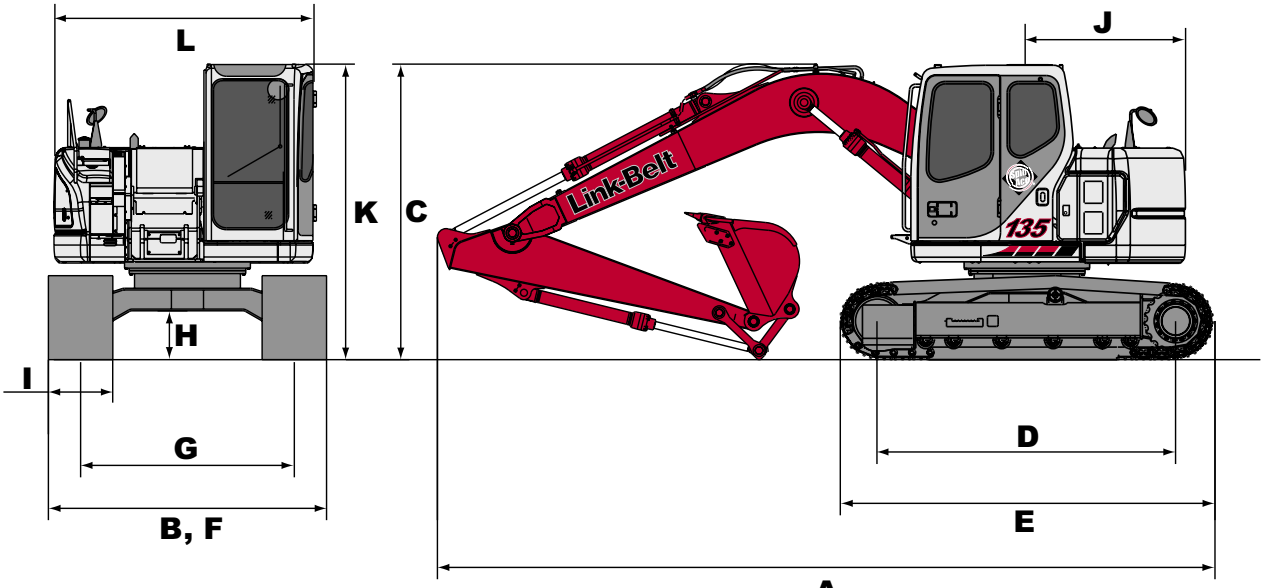
Dimensions

Dimensions - 7' 10" (2.39 m) arm

A. Overall length..... 23' 9" (7.24 m)
B. Overall width..... 8' 6" (2.59 m)
C. Overall height..... 9' 0" (2.75 m)
D. Distance between sprocket and idler..... 9' 2" (2.79 m)
E. Overall length of crawler..... 11' 6" (3.51 m)
F. Overall width of crawler with std. shoe.... 8' 6" (2.59 m)
G. Track gauge ..... 6' 6" (1.99 m)
H. Min. ground clearance ..... 1' 5" (435 mm)
I. Shoe width ..... 23.6" (600 mm)
J. Tail swing radius ..... 4' 10" (1.48 m)
K. Cab height ..... 9' 0" (2.75 m)
L. Overall width of upperstructure ..... 7' 11" (2.41 m)

Dimensions - 9' 4" (2.85 m) arm

A. Overall length..... 23' 9" (7.23 m)
C. Overall height..... 8' 6" (2.60 m)



Standard Equipment

- Control Pattern Selector Valve
- One-touch decelerator
- Integral cylinder cushioning
- Cushioned attachment
- Swing cushion valve
- Auxiliary valve spool
- Travel alarm
- Auto power swing
- Two speed travel w/auto shift
- Nephron® hydraulic filtration system
- Low noise/low vibration cab floating on 4 fluid filled mounts
- Sliding/reclining, suspension cloth upholstered seat with adjustable arm rests and lumbar support, seat belt
- Analog gauge package
- Heater and air conditioner
- Rear view mirrors
- Two work lights, cab and boom
- Horn, interior lighting, AM/FM STEREO radio, clock, floor mat, cigarette lighter
- 12 volt accessory outlet for cell phones/ audio extras
- Safety glass windows with windshield wiper and washer
- Gate lock lever (hydraulic lockout device)
- Vandalism locks
- Common key for cab & house doors, engine hood, and fuel cap
- Upper and lower undercovers
- Chrome plated boom foot pin with brass bushing
- Chrome plated boom to arm connection pin with brass bushing
- 23.6" (600 mm) 3-bar grouser shoes
- 7,340 lb. (3 330 kg) Counterweight

Options

- Arms -
  7' 10" (2.39 m)
  9' 4" (2.85 m)
- 27.5" (700 mm) 3-bar grouser shoes
- 19.7" (500 mm) rubber track (individual shoes bolting to standard rail)
- Bolt-on rubber pads (bolt to steel shoes)
- Dozer blade (factory install)
- Auxiliary Hydraulics
  Single Acting
  Multi-Function
  Thumb
- Hose Burst Check Valves
- Couplers (field install)
  Hendrix Hydraulic Coupler
  Esco Multi-Pin Grabber
- Thumbs (field install)
  Esco Universal rigid
  Esco Hydraulic non-link
  Esco Hydraulic non-link (for coupler)
  Esco Hydraulic link

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