922E EXCAVATOR

Tier 2 / Stage II



SPECIFICATIONS

Operating weight	22,000 kg
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Operating weight includes coolant, lubricants, full fuel tank, cab, standard shoes, boom, arm, bucket and operator 75 kg.

Bucket capacity 0.45 - 1.2 m³

ENGINE

Description

Cummins EPA Tier 2 / EU Stage II, inline 6-cylinder, turbocharged, mechanically controlled direct injection.

Air cleaner: Cummins direct flow air filter. Cooling system: Charge air cooling.

Emission rating	EPA Tier 2 /
	EU Stage II
Engine manufacturer	Cummins
Engine model	B5.9
Aspiration	Wastegate Turbo (WGT)
Charged air cooling	Aftercooler
Cooling fan drive	Direct
Displacement	5.9 L
Rated speed	1,950 rpm
Engine output - net (SAE J1349 / ISO 9249)	102 kW (137 hp)
Engine output - gross (SAE J1995 / ISO 14396)	112 kW (150 hp)
Maximum torque	614 N·m @1,500 rpm
Bore × Stroke	102 × 120 mm

UNDERCARRIAGE

Track shoe each side	49
Link pitch	190 mm
Shoe width, triple grouser	600/700/800/900 mm
Bottom rollers each side	8
Top rollers each side	2

SWING SYSTEM

Description

Planetary gear reduction driven by high torque axial piston motor, with oil disk brake. Swing parking brake resets within five seconds after swing pilot controls return to neutral.

Swing speed	12.5 rpm	
Swing torque	78,200 N·m	

HYDRAULIC SYSTEM

Main pump

Туре	Two variable displacement piston pumps
Maximum flow	2 × 224 L/min

34.3/37.3 MPa

Pilot pump

Implement

Туре	Gear pump
Maximum flow	19 L/min

Relief valve setting

Travel circuit	34.3 MPa
Slew circuit	25.5 MPa
Pilot circuit	3.9 MPa

Hydraulic cylinders

Boom Cylinder – Bore × Stroke	Ф120 × 1,335 mm
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Bucket Cylinder – Bore × Stroke	Ф115 × 1,120 mm
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ELECTRIC SYSTEM	
System Voltage	24 V
Batteries	2 x 12 V
Alternator	24 V - 70 A

24 V - 7.8 kW

SERVICE CAPACITIES	
Fuel tank	420 L
Engine oil	25 L
Final drive (each)	5.5 L
Swing drive	3.4 L
Cooling system	25 L
Hydraulic reservoir	210 L
Hydraulic system total	330 I

SOUND PERFORMANCE

Start motor

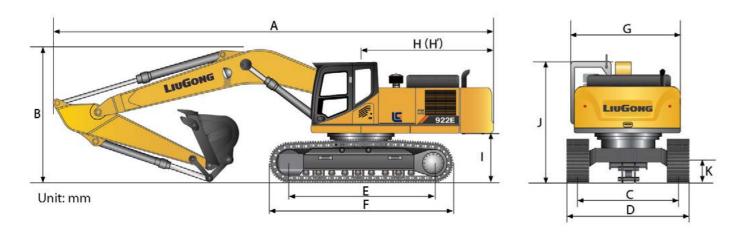
Interior Sound Power Level (ISO 6396)	73 dB(A)
Exterior Sound Power Level (ISO 6395)	103 dB(A)

DRIVE AND BRAKES

Description

2-speed axial piston motors with oil disk brakes. Steering controlled by two hand levers with pedals.

Max. travel speed	High: 5.3 km/h Low: 3.3 km/h
Gradeability	35°/70%
Max. drawbar pull	220 kN



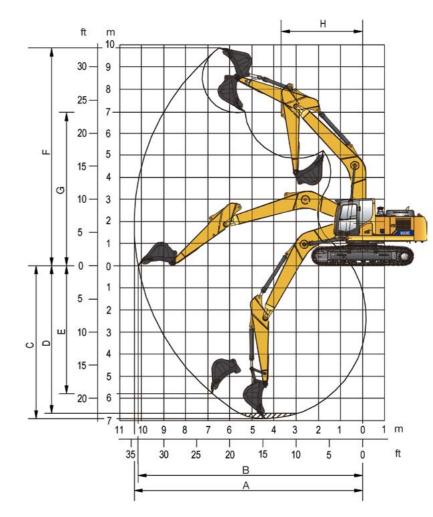
DIMENSIONS			
Boom	5,7	10 mm	8,500 mm
Arm Options	2,915 mm	2,700 mm	6,400 mm
A Shipping Length	9,540 mm	9,565 mm	12,435 mm
B Shipping Height – Top of Boom	3,14	40 mm	3,200 mm
C Track Gauge	2,39	90 mm	2,390 mm
D Undercarriage Width - with 600 mm Shoes	2,99	90 mm	/
700 mm Shoes	3,09	90 mm	/
800 mm Shoes	3,19	90 mm	3,190 mm
900 mm Shoes	3,29	90 mm	3,290 mm
E Length to Center of Rollers	3,6	50 mm	3,650 mm
F Track Length	4,4	40 mm	4,440 mm
G Overall Width of Upper Structure	2,76	60 mm	2,740 mm
H Tail Swing Radius	2,78	80 mm	2,750 mm
I Counterweight Ground Clearance	1,07	70 mm	1,070 mm
J Overall Height of Cab	3,04	40 mm	3,040 mm
K Min. Ground Clearance	44	0 mm	440 mm
L Track Shoe Width	60	0 mm	800 mm

BOOM DIMENSIONS		
Boom	5,710 mm	8,500 mm
Length	5,915 mm	8,690 mm
Height	1,550 mm	1,585 mm
Width	621 mm	800 mm
Weight	1,895 kg	2,660 kg

Cylinder, piping and pin included. Boom cylinder pin excluded.

ARM DIME	NSIONS		
Arm	2,915 mm	2,700 mm	6,400 mm
Length	3,895 mm	3,685 mm	7,530 mm
Height	790 mm	810 mm	815 mm
Width	466 mm	466 mm	470 mm
Weight	1,110 kg	1,073 kg	1,400 kg

Cylinder, linkage and pin included.



WORKING RANGE				
Boom		5,71	0 mm	8,500 mm
Arm Options		2,915 mm	2,700 mm	6,400 mm
A. Max. Digging Reach		9,870 mm	9,735 mm	15,110 mm
B. Max. Digging Reach on Ground		9,685 mm	9,550 mm	14,985 mm
C. Max. Digging Depth		6,562 mm	6,380 mm	11,910 mm
D. Max. Digging Depth, 2.44 m (8') level		6,390 mm	6,140 mm	11,785 mm
E. Max. Vertical Wall Digging Depth		5,080 mm	5,040 mm	5,395 mm
F. Max. Cutting Height		9,945 mm	9,970 mm	12,780 mm
G. Max. Dumping Height		7,170 mm	7,200 mm	10,535 mm
H. Min. Front Swing Radius		3,090 mm	3,120 mm	4,270 mm
Buoket Digging Force (ISO)	Normal	140 kN	140 kN	55 kN
Bucket Digging Force (ISO)	Power Boost	152 kN	2,700 mm 6,400 mm 9,735 mm 15,110 mm 9,550 mm 14,985 mr 6,380 mm 11,910 mm 6,140 mm 5,395 mm 5,040 mm 5,395 mm 7,200 mm 10,535 mr 3,120 mm 4,270 mm 140 kN 55 kN 152 kN 60 kN 102 kN 70 kN 110.5 kN 76 kN 110.5 kN 76 kN	60 kN
	Normal	97 kN	102 kN	70 kN
Ann bigging Force (ISO)	Power Boost	105 kN	110.5 kN	76 kN
Bucket Capacity		1.0 m ³	1.1 m³	0.45 m³
Bucket Tip Radius		1,450 mm	1,450 mm	1,250 mm

BUCKET SELECTION GUIDE							
					5.7 m	boom	8.5 m boom
Bucket type	Capacity	Cutting width	Weight	Teeth pcs	2.9 m arm	2.7 m arm	6.4 m arm
General purpose	0.45 m ³	865 mm	372 kg	4	NA	NA	Α
Heavy duty	0.9 m³	1,083 mm	786 kg	5	В	В	NA
General purpose	0.95 m ³	1,268 mm	769 kg	5	В	В	NA
Heavy duty	1 m³	1,113 mm	887 kg	5	В	В	NA
Wide and shallow bucket	1 m³	1,227 mm	850 kg	5	А	А	NA
Super heavy duty	1 m³	1,280 mm	905 kg	5	С	С	NA
Heavy duty	1.1 m³	1,330 mm	852 kg	6	В	В	NA
Heavy duty	1.2 m³	1,420 mm	915 kg	6	А	А	NA

The recommendations are given as a guide only, based on typical operation conditions. Bucket capacity based on ISO 7451, heaped material with a 1:1 angle of

Maximum material density:

Maximum material density:
A 1,200 - 1,300 kg/m³: Coal, Caliche, Shale
B 1,400 - 1,600 kg/m³: Wet earth and clay, limestone, sandstone
C 1,700 - 1,800 kg/m³: Granite, wet sand, well blasted rock
D 1,900 kg/m³: Wet mud, Iron ore

NA. Not applicable

MACHINE WEIGHT	MACHINE WEIGHTS AND GROUND PRESSURE													
	Operating weight	Ground pressure	Overall width	Operating weight	Ground pressure	Overall width								
Shoe width	5,710 mm boom,	2,915 mm arm, 1.0 m ³ l counterweight	oucket, 4,300 kg	5,710 m boom, 2,700 mm arm, 1.1 m³ bucket, 4,000 kg counterweight										
600 mm	22,000 kg	45.2 kPa	2,990 mm	22,000 kg	45.2 kPa	2,990 mm								
700 mm	22,280 kg	39.3 kPa	3,090 mm	22,280 kg	39.3 kPa	3,090 mm								
800 mm	22,570 kg	34.8 kPa	3,190 mm	22,570 kg	34.8 kPa	3,190 mm								
900 mm	22,850 kg	31.3 kPa	3,290 mm	22,850 kg	31.3 kPa	3,290 mm								

MACHINE WEIGHTS AND GROUND PRESSURE										
Shoe width	Operating weight	Ground pressure	Overall width							
Shoe width	8,500 mm boom, 6,400 mm arm, 0.45 m³ bucket, 5,000 kg counterweight									
800 mm	23,850 kg	36.8 kPa	3,190 mm							
900 mm	24,130 kg	33.1 kPa	3,290 mm							

Lifting capacity at the arm end without bucket. For lifting capacity including bucket, weight of the bucket or the bucket with quick coupler must be deducted from the lifting capacities.

Lifting capacities are based on the machine standing on a firm, uniform supporting surface.





- 1. Do not attempt to lift or hold any load that is greater than these rated values at their specified load radius and height. Weight of all accessories must be deducted from the above lifting capacities.
- The rated loads are in compliance with ISO 10567 Hydraulic Excavator Lift Capacity Rating Standard. They do not exceed 87% of hydraulic that the standard of the standard lifting capacity or 75% tipping load.
- 3. Ratings at bucket lift hook.

- 4. Lifting capacities are based on machine standing on level, firm and uniform ground.
- 5. *Indicates the load is limited by hydraulic capacity rather than tipping capacity.
- Operator should be fully acquainted with the Operator's and Maintenance Instructions before operating this machine and rules for the safe operation of equipment should be adhered to at all times.

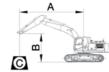
LIFTING CAPACITY (METRIC)

922E with 600 mm shoes, 2,915 mm arm

- A: Load radius
 B: Load point height
 C: Lifting capacity
 Cf: Rating over front
 Cs: Rating over side

Conditions

Boom length: 5,710 mm Arm length: 2,915 mm Bucket: None Counterweight: 4,000 kg Shoes: 600 mm triple grouser Unit: kg



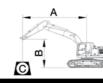
							A (Ur	it: m)							
	3		4		į	5	(3	7		8		М	AX REACH	ı
B (m)															A (m)
7							*5,340	*5,340					*5,050	*5,050	6.6
6							*5,420	*5,420	*5,510	4,650			*5,360	4,460	7.2
5					*6,070	*6,070	*5,780	5,780	*5650	4,610			*4,670	3,920	7.8
4			*8,140	*8,140	*7,010	*7,010	*6,360	5,650	*5,960	4,550	*5,670	3,740	*5,670	3,740	8.0
3			*10,100	9,680	*8,100	7,070	*7,030	5,510	*6,380	4,460	5,710	3,700	5,510	3,560	8.2
2			*11,880	9,220	*9,180	6,820	*7,710	5,340	*6,820	4,360	5,650	3,640	*5,150	3,400	8.4
1			*13,090	8,940	*10,060	6,630	*8,310	5,210	6,760	4,280	5,610	3,580	5,420	3,480	8.2
0	*8,210	*8,210	*13,670	8,810	*10,640	6,500	8,340	5,130	6,690	4,210	5,570	3,540	5,380	3,450	8.2
- 1	*11,670	*11,670	*13,770	8,760	*10,890	6,420	8,270	5,070	6,650	4,170			5,750	3,660	7.8
- 2	*15,750	13,820	*13,510	8,770	*10,820	6,420	8,270	5,050	6,650	4,170			6,170	3,910	7.4
- 3	*16,400	13,970	*12,840	8,850	*10,390	6,460	8,310	5,090					*5,150	4,380	7.0
- 4	*14,670	14,180	*11,630	8,980	*9,420	6,570							*7,900	5,420	5.8

922E with 600 mm shoes, 2,700 mm arm

A: Load radius
B: Load point height
C: Lifting capacity
Cf: Rating over front
Cs: Rating over side

Conditions

Boom length: 5,710 mm Arm length: 2,700 mm Bucket: None Counterweight: 4,000 kg Shoes: 600 mm triple grouser Unit: kg



							A (Un	it: m)								
D (m)	3		4		5		(6		7		8		MAX REACH		
B (m)	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	A (m)	
7							*5,610	*5,610					*5,110	*5,110	6.4	
6					*5,690	*5,690	*5,650	*5,650	*5,630	4,610			*5,630	4,610	7.0	
5					*6,340	*6,340	*6,010	5,760	*5,860	4,590			*4,920	4,050	7.6	
4			*8,610	*8,610	*7,300	7,300	*6,570	5,630	*6,150	4,530	*4,420	3,720	*4,420	3,720	8.0	
3			*10,600	9,630	*8,400	7,050	*7,230	5,500	*6,550	4,440	5,710	3,690	*4,550	3,550	8.2	
2			*12,320	9,220	*9,460	6,820	*7,900	5,360	6,860	4,360	5,650	3,640	5,460	3,510	8.2	
1			*13,400	8,980	*10,280	6,650	8,460	5,230	6,760	4,280	5,610	3,590	*5400	3,480	8.2	
0			*13,850	8,890	*10,800	6,530	8,360	5,150	6,710	4,230	5,570	3,560	5,570	3,560	8.0	
-1	*11,720	*11,720	*13,850	8,850	10,970	6,480	8,310	5,110	6,670	4,190			5,960	3,790	7.6	
-2	*16,370	14,020	*13,470	8,890	*10,850	6,480	8,310	5,110	6,690	4,210			6,440	4,070	7.2	
-3	*16,090	14,170	*12,710	8,970	10,310*	6,530	8,360	5,150					7,320	4,590	6.6	
-4	*14,190	*14190	*11,320	9,100	*9,150	6,650							*7,940	5,750	5.6	

Lifting capacity at the arm end without bucket. For lifting capacity including bucket, weight of the bucket or the bucket with quick coupler must be deducted from the lifting capacities.

Lifting capacities are based on the machine standing on a firm, uniform supporting surface.





Rating over - front (Cf)

- Rating over side (Cs)
- 1. Do not attempt to lift or hold any load that is greater than these rated values at their specified load radius and height. Weight of all accessories must be deducted from the above lifting
- 2. The rated loads are in compliance with ISO 10567 Hydraulic Excavator Lift Capacity Rating Standard. They do not exceed 87% of hydraulic lifting capacity or 75% tipping load.
- 3. Ratings at bucket lift hook.

- 4. Lifting capacities are based on machine standing on level, firm and uniform ground.
- 5. *Indicates the load is limited by hydraulic capacity rather than tipping capacity.
- 6. Operator should be fully acquainted with the Operator's and Maintenance Instructions before operating this machine and rules for the safe operation of equipment should be adhered to at all times.

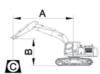
LIFTING CAPACITY (METRIC)

922E with 800 mm shoes, 2,915 mm arm

- Load radius
- Load point height Lifting capacity
- Rating over front Rating over side

Conditions

Boom length: 5,710 mm Arm length: 2,915 mm Bucket: None Counterweight: 4,000 kg Shoes: 800 mm triple grouser



							A (Ur	nit: m)							
	3			4	5			6	7		8		MAX REACH		
B (m)					U								P		A (m)
7							*5,340	*5,340					*5,050	*5,050	6.6
6							*5,420	*5,420	*5,510	4,820			*5,360	4,460	7.2
5					*6,070	*6,070	*5,780	*5,780	*5,650	4,780			*4,670	3,920	7.8
4			*8,140	*8,140	*7,010	*7,010	*6,360	5,840	*5,960	4,690	*5,670	3,860	*5,670	3,740	8.0
3			*10,100	10,000	*8,100	7,300	*7,030	5,690	*6,380	4,610	5,900	3,820	5,510	3,560	8.2
2			*11,880	9,550	*9,180	7,050	*7,710	5,530	*6,820	4,510	5,840	3,760	*5150	3,400	8.4
1			*13,090	9,270	*10,060	6,860	*8,310	5,400	6,980	4,420	5,800	3,720	5,420	3,480	8.2
0	*8,210	*8,210	*13,670	9,130	*10,640	6,730	8,610	5,300	6,920	4,360	5,760	3,690	5,380	3,450	8.2
-1	*11,670	*11,670	*13,770	9,070	*10,890	6,670	8,560	5,260	6,880	4,320			5,750	3,660	7.8
-2	*15,750	14,320	*13,510	9,100	*10,820	6,650	8,550	5,250	6,880	4,320			6,170	3,910	7.4
-3	*16,400	14,470	*12,840	9,180	*10,390	6,710	8,590	5,280					85,150	4,380	7.0
-4	*14,670	14,670*	*11,630	9,310	*9,420	6,800							*7,900	5,420	5.8

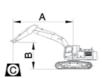
922E with 800 mm shoes, 2,700 mm arm

- Load radius Load point height

- C: Lifting capacity
 Cf: Rating over front
 Cs: Rating over side

Conditions

Boom length: 5,710 mm Arm length: 2,700 mm Bucket: None Counterweight: 4,000 kg Shoes: 800 mm triple grouser



A (Unit: m)															
B (m)	3		4		5		6		7		8		MAX REACH		
	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	A (m)
7							*5,610	*5,610					*5,110	*5,110	6.4
6					*5,690	*5,690	*5,650	*5,650	*5,630	4,780			*5,630	4,610	7.0
5					*6,340	*6,340	*6,010	5,940	*5,860	4,750			*4,920	4,050	7.6
4			*8,610	*8,610	*7,300	*7,300	*6,570	5,820	*6,150	4,690	*4420	3,840	*4,420	3,720	8.0
3			*10,600	9,940	*8,400	7,280	*7,230	5,670	*6,550	4,590	5,900	3,810	*4,550	3,550	8.2
2			12,320*	9,550	*9,460	7,050	*7,900	5,530	*6,960	4,510	5,840	3,760	5,460	3,510	8.2
1			*13,400	9,310	*10,280	6,880	*8,470	5,420	7,000	4,440	5,800	3,730	*5,400	3,480	8.2
0			*13,850	9,210	*10,800	6,780	8,640	5,340	6,940	4,380	5,760	3,700	5,570	3,560	8.0
-1	*11,720	*11,720	*13,850	9,180	*10,980	6,730	8,600	5,300	6,900	4,360			5,960	3,790	7.6
-2	*16,370	14,520	*13,470	9,210	*10,850	6,730	8,600	5,300	6,920	4,360			6,440	4,070	7.2
-3	*16,090	14,650	*12,710	9,280	*10,310	6,780	*8480	5,340					7,320	4,590	6.6
	*1// 100	*1// 100	*11 320	0.430	*0.150	6 880							*79/10	5.750	5.6

STANDARD EQUIPMENT

- · Cummins diesel engine, turbocharged, inline 6-cylinder, 4 stroke, water cooled
- · Air filter with pre-cleaner
- · Pre-filter with water separator
- · Auto-idle speed control
- Aspiration, Wastegate Turbo (WGT)
- IPC (Intelligent Power Control) System
- · Radiator, oil cooler, charge air cooler and direct
- drive cooling fan • Engine overheat prevention system
- · Engine oil filter

DRIVETRAIN

- · Hydraulic motor, one -piece two-gear piston and reducer
- 2-speed travel system with automatic shift

SWING SYSTEM

· High-torque piston swing motor with integral spring set and automatic hydraulic release swing brake

HYDRAULIC SYSTEM

- · Main pump: two variable displacement piston samua
- Pilot pump: gear
- · Cylinders: boom, stick, bucket
- · Power boost function
- · Swing with anti-reverse function · Boom and arm regeneration circuits
- Pilot oil filter

• 6-working mode selection system: Power Mode, Economy Mode, Fine Mode, Lifting Mode, Breaker Mode, Attachment Mode

DIGGING EQUIPMENT

922E

- 5.710 mm boom
- 2.915 mm arm
- 1 m3 (SAE, heaped) bucket

OPERATOR STATION

- · Pressurized and sealed cab with all-around visibility, large roof window with slide sliding sun visor, front window wiper and removable lower window
- · Air conditioner, heater, defroster
- Mechanical suspension seat
- AM/FM radio
- · Glass-breaking hammer
- Cigarette lighter
- Cup holder Floor mat
- Storage box · Fire extinguisher

INSTRUMENTATION

- Color LCD monitor with alarms, filter/fluid change, fuel rate, water temperature, work mode, fault code, working hour, etc.
- · Fuel gauge

Hydraulic oil level gauge

ELECTRICAL

- Alternator 70 A
- Dual batteries 2 x 12 V
- · Working lights, 1 frame mounted, 2 boom mounted
- Starting, 24 V

UNDERCARRIAGE

- 600 mm track-shoes with triple grousers
- Rollers, bottom 8 each side, top 2 each side
- Track guards, 2 track guards each side
- · Towing eye on base frame

GUARDS

- Belly guards, 2 mm
- Cover plate under travel frame

OTHER STANDARD EQUIPMENT

- · 4,000 kg counterweight
- Maintenance tool kit
- Maintenance parts package

OPTIONAL EQUIPMENT

ENGINE SYSTEM

· Electrical fuel refilling pump

HYDRAULIC SYSTEM

- · Hydraulic attachments rotation lines
- Over loading warning
- · Hose burst safety valves, prevention of boom or arm supply dropped when the lines split.
- · Dual way auxiliary lines
- Quick coupler lines (low and high pressure)

OPERATOR STATION

- Operation protection guard (included cab front and top quard, bar)
- Operation protection screen (on cab front, net)
- · Operation protection screen (front-lower) • Roll-Over Protective System (ROPS)
- · Rain visor
- · Mechanic heated suspension seat
- Air suspension seat

FI FCTRICAL

- · LED working lights on cab, 4 front and 2 rear
- Rear view camera
- Travel alarm Rotating beacon

UPPER STRUCTURE

- 8 mm thickness platform bottom plate
- · Bucket cylinder guard

UNDERCARRIAGE

- 3 piece track-guards (each side)

DIGGING EQUIPMENT

- Arm: 2,700 mm, 6,400 mm
- Hydraulic hammers (LiuGong & Soosan) Hydraulic quick coupler
- · Quartered grapple

• 700 mm, 800 mm, 900 mm track-shoes with triple grousers

- Boom: 8,500 mm
- Bucket: 0.45/0.9/0.95/1.0/1.1/1.2 m³



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