Engine Yanmar 4TNV88

**Net Power** 

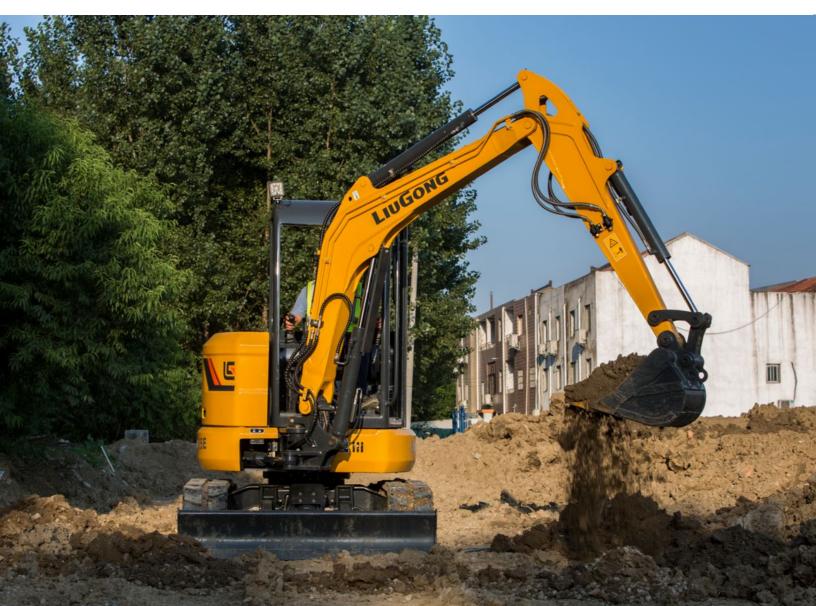
17.2 kW (23.2 hp)

Operating Weight 3,860 kg (8,510 lb)

Bucket Capacity 0.11 m<sup>3</sup> (0.144 yd<sup>3</sup>)







TOUGH WORLD. TOUGH EQUIPMENT.



LiuGong 9035E Excavator delivers high performance, durability and reliability in zero tail swing design to ensure safe and easy operation within a confined space.

### **POWERFUL ENGINE**

The fuel efficient, Tier 4 certified Yanmar 3TNV88 engine provides proven and reliable power.

### **ADVANCED HYDRAULICS**

Advanced hydraulic system is perfectly matched to the engine and components for fast response and smooth operation. The hydraulic system provides a load sensing and flow sharing capability leading to operational precision, efficient performance and greater controllability.

### **BOOM SWING**

When it works alongside obstacles, the swing post and cylinder stay within the tracks in an offset position, so that you can avoid the risk of damage to your machine.

### **BLADE FLOAT FUNCTION**

When you push the lever fully forward into the detent position the float function is enabled. Because you don't have to adjust the blade height during travel, cleanup and backfilling will be easier.

### **SIMPLY MULTIFUNCTIONAL**

Switching attachments like buckets, breakers and shears can be time consuming and hazardous. We've made it fast, safe and simple with LiuGong's quick coupler and powerlatch tilt coupler. These are perfectly matched to a range of genuine LiuGong attachments including; buckets and breakers which can be changed from the seat of the cab in less than a minute, quick, safe and easy.



### **COMFORTABLE OPERATION**

clear visibility and convenient features all contribute to operator comfort and overall productivity on

tail swing design. On this model, the radius of the upper body stays entirely within the width of the undercarriage that ensures safe and easy operation within a confined



# **SPECIFICATIONS**

### Operating weight 3,860 kg (8,510 lb)

Operating weight includes coolant, lubricants, full fuel tank, cab, standard shoes, boom, arm, bucket and operator 75 kg (165 lb).

Bucket capacity

0.11 m<sup>3</sup> (0.14 yd<sup>3</sup>)

### Description

Yanmar EPA Tier4 Final, 1.64 liter, 4 stroke direct injection diesel engine.

	Emission rating	Tier4 Final
	Engine manufacturer	Yanmar
	Engine model	3TNV88
	Aspiration	Natural
	Charged air cooling	Aftercooler
	Cooling fan drive	Direct
	Displacement	1.64 L (0.43 gal)
	Rated speed	2,200 rpm
	Engine output - net (SAE J1349 / ISO 9249)	17.2 kW (23.2 hp)
	Engine output - gross (SAE J1995 / ISO 14396)	18.2 kW (24.4 hp)
	Maximum torque	94.2 N·m@1,320 rpm
	Bore × Stroke	88 x 90 mm
		(3.46" x 3.54")

### **DRIVE AND BRAKES**

### Description

2-speed drive motors allow auto speed shifting. Each motor is equipped with a hydraulic released, spring applied parking

Max. travel speed	High: 4.6 km/h (2.8 mph) Low: 2.7 km/h (1.7 mph)
Gradeability	30°/58%
Max. drawbar pull	33 kN (7,419 lbf)

### SWING SYSTEM Description

Planetary gear reduction driven by high torque axial piston motor with spring applied parking brake; Hydraulic oil lubricate.

Swing speed	10 rpm
Swing torque	8,008 N·m (5,912 lbf·ft)

### **HYDRAULIC SYSTEM**

Main pump	
Туре	Variable displacement piston pump

### Pilot pump

Maximum flow

Gear pump	
8.8 L/min	
(2.3 gal/min)	

92.4 L/min

(24.4 gal/min)

### Relief valve setting

Implement	24.5 MPa (3,553 psi)
Travel circuit	24.5 MPa (3,553 psi)
Slew circuit	18.6 MPa (2,698 psi)
Pilot circuit	3.9 MPa (566 psi)

Hydraulic cylinders		
Boom Cylinder –	Ф80 × 510 mm	
Bore × Stroke	(Ф3.1" × 1'8")	
Stick Cylinder –	Ф80 × 590 mm	
Bore × Stroke	(Ф3.1" × 1'11")	
Bucket Cylinder –	Φ63 × 465 mm	
Bore × Stroke	(Φ2.5" × 1'6")	

UNDERIVARINIAGE	
Track shoe each side	45
Link pitch	101.6 mm (4")
Shoe width, triple grouser	300 mm (12")
Bottom rollers each side	4
Top rollers each side	1

### **ELECTRIC SYSTEM**

System Voltage	12 V
Battery	12 V
Alternator	12 V - 55 A
Start motor	12 V - 1.7 kW
Start motor	(12 V - 2.3 hp)

### **SERVICE CAPACITIES**

Fuel tank	40 L (10.6 gal)
Engine oil	6.7 L (1.77 gal)
Final drive (each)	0.5 L (0.13 gal)
Swing drive	/
Cooling system	7 L (1.85 gal)
Hydraulic reservoir	42 (11.1 gal)
Hydraulic system total	70 (18.5 gal)

### OUND PERFORMANCE

Interior Sound Power Level (ISO 6396)	79 dB(A)
Exterior Sound Power Level (ISO 6395)	94 dB(A)

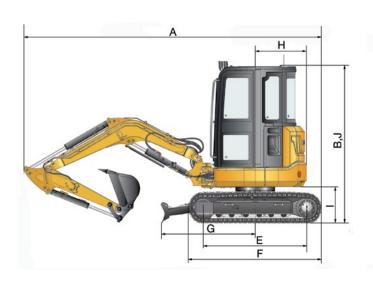
### **MACHINE WEIGHTS AND GROUND PRESSURE**

3,860 kg (8,510 lb)
300 mm (12")
2,450 mm (8")
1,320 mm (4'4")
0.11 m³ (0.144 yd³)
560 kg (1,235 lb)
34 kPa (4.9 psi)











DIMENSIONS					
Boom	2,450 r	nm (8")			
Arm Options	1,320 mm (4'4")	1,700 mm (5'7")			
A Shipping Length	4,810 mi	m (15'9")			
B Shipping Height – Top of Cab	2,500 m	ım (8'2")			
C Track Gauge	1,400 m	ım (4'7")			
D Undercarriage Width - with 300 mm Shoes	1,700 m	m (5'7")			
E Length to Center of Rollers	1,675 mm (5'6")				
F Track Length	2,100 mi	m (6'11")			
G Length from Blade to Swing Center	1,517 mm (5')				
H Tail Swing Radius	850 mr	m (2'9")			
I Counterweight Ground Clearance	580 mn	n (1'11")			
J Overall Height of Cab	2,500 m	ım (8'2")			
K Min. Ground Clearance	258 m	m (10")			
L Track Shoe Width	300 m	m (12")			

BOOM DIMENSIO	BOOM DIMENSIONS					
Boom	2,450 mm (8')					
Length	2,548 mm (8'4")					
Height	806 mm (2'8")					
Width	273 mm (11")					
wiatri	(with boom hinge pin)					
Weight	142 kg (313 lb)					
Only boom	·					

ARM DIM	ENSIONS	
Arm	1,320 mm (4'4")	1,700 mm (5'7")
Length	1,706 mm (5'7")	2,100 mm (6'11"
Height	392 mm (1'3")	392 mm (1'3")
Width	145 mm (5.7")	145 mm (5.7")
Weight	78 kg (172 lb)	97 kg (214 lb)

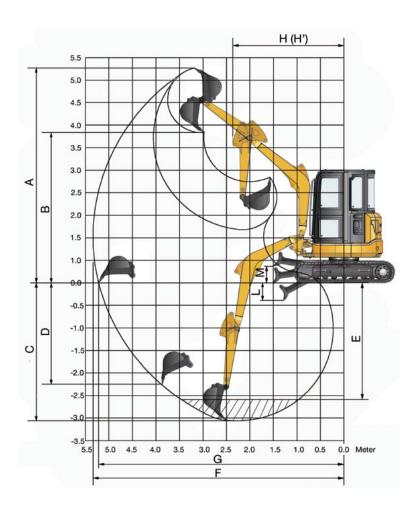
Only arm.

BUCKET SELECTION	BUCKET SELECTION GUIDE								
					2.45 m (8	3') Boom			
Bucket type	Capacity	<b>Cutting width</b>	Weight	Teeth pcs	1.32 m (4'4") Arm	1.7 m (5'7") Arm			
General purpose	0.11 m³ (0.144 yd³)	610 mm (2')	101 kg (223 lb)	4	В	NA			
General purpose	0.07 m <sup>3</sup> (0.09 yd <sup>3</sup> )	458 mm (1'6")	82 kg (181 lb)	4	В	В			

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 repose.

- Maximum material density:
  A 1,200~1,300 kg/m³ (2,023~2,191 lb/yd³): Coal, Caliche, Shale
  B 1,400~1,600 kg/m³ (2,360~2,697 lb/yd³): Wet earth and clay, limestone, sandstone
  C 1,700~1,800 kg/m³ (2,865~3,034 lb/yd³): Granite, wet sand, well blasted rock
  D 1,900 kg/m³ (3,203 lb/yd³): Wet mud, Iron ore
  NA. Not applicable





WORKING RANGE		
Boom	2,450 r	mm (8')
Arm Options	1,320 mm (4'4")	1,700 mm (5'7")
A. Max. cutting height	4,710 mm (15'5")	4,843 mm (15'11")
B. Max. dumping height	3,310 mm (10'10")	3,463 mm (11'4")
C. Max. digging depth	3,085 mm (10'1")	3,440 mm (11'3")
D. Max. vertical wall digging depth	2,503 mm (8'3")	2,713 mm (8'11")
E. Max. digging depth 2.44 m (8') level	2,610 mm (8'7")	3,019 mm (9'11")
F. Max. digging reach	5,385 mm (17'8")	5,715 mm (18'9")
G. Max. digging reach on ground	5,270 mm (17'3")	5,603 mm (18'5")
H. Min. front swing radius	2,416 mm (7'11")	2,416 mm (7'11")
Bucket Digging Force (ISO)	30 kN (6,744 lb)	30 kN (6,744 lb)
Stick Digging Force (ISO)	20 kN (4,496 lbf)	17.8 kN (4,002 lbf)
Bucket Capacity	0.11 m³ (0.144 yd³)	0.07 m³ (0.09 yd³)
Bucket Tip Radius	725 mm (2'5")	725 mm (2'5")

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.





- 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.
- 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.
- 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)

### 9035EZTS with 300 mm shoes, 1,320 mm arm (Standard)

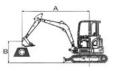
- A: Reach from swing center
- B: Bucket hook height
- C: Lifting capacity
  Cf: Rating over front
- Cs: Rating over from Cs: Rating over side

### Conditions

Boom length: 2,450 mm one-piece boom

Arm length: 1,320 mm Bucket: 0.11 m<sup>3</sup>

Shoes: 300 mm Unit: kg



				Blade	: Down						
	A (Unit: m)										
	2	2	;	3		4		MAX REACH	AX REACH		
B (m)	F								A (m)		
3	•				*507	493	*532	414	4.4		
2					*590	479	*567	341	4.8		
1	*2,310	1,363	*1,048	724	*737	454	*613	315	4.9		
0	*2,902	1,267	*1,343	675	*858	431	*671	322	4.8		
- 1	*2,685	1,266	*1,375	659	*865	422	*743	370	4.4		

Blade: Up										
A (Unit: m)										
D ()	2		3		4		MAX REACH			
B (m)	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	A (m)	
3					*507	493	*532	414	4.4	
2		,			*590	479	458	341	4.8	
1	1,886	1,363	964	724	606	454	428	315	4.9	
0	1,779	1,267	912	675	582	431	439	322	4.8	
- 1	1,777	1,266	895	659	573	422	504	370	4.4	

### **9035E** EXCAVATOR

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.
- 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

### LIFTING CAPACITY (METRIC)

### 9035EZTS with 12" shoes, 4'4" arm (Standard)

- A: Reach from swing center
- Bucket hook height
- Lifting capacity
- Cf: Rating over front
- Cs: Rating over side

### **Conditions**

Boom length: 8' one-piece boom Arm length: 4'4" Bucket: 0.144 vd<sup>3</sup> Shoes: 12" Unit: kg



### Blade: Down

### A (Unit: ft)

				•	•					
B (ft)	6'7"		9'1	9'10"		13'1"		MAX REACH		
									A (ft)	
9'10"					*1,117	1,086	*1,172	912	14'5"	
6'7"					*1,300	1,056	*1,250	751	15'9"	
3'3"	*5,092	3,004	*2,310	1,596	*1,624	1,000	*1,351	694	16'1"	
'0"	*6,397	2,793	*2,960	1,488	*1,891	950	*1,479	709	15'8"	
-4'9"	*5,919	2,791	*3,031	1,452	*1,906	930	*1,638	815	14'3"	

	Blade: Up										
A (Unit: ft)											
B (ft)	6'	6'7"		9'10"		13'1"		MAX REACH			
	Cf	Cs	Cf	Cs	Cf	Cs	Cf	Cs	A (ft)		
9'10"					*1,117	1,086	*1,172	912	14'5"		
6'7"					*1,300	1,056	1,009	751	15'9"		
3'3"	4,157	3,004	2,125	1,596	1,336	1,000	943	694	16'1"		
'0"	3,922	2,793	2,010	1,488	1,283	950	967	709	15'8"		
-4'9"	3,917	2,791	1,973	1,452	1,263	930	1,111	815	14'3"		

# STANDARD EQUIPMENT

### **ENGINE SYSTEM**

- Yanmar engine, inline 3 cylinders, 4 stroke, water cooled, natural aspiration
- · Air filter with pre-cleaner
- · Engine oil filter
- Pre-filter with water separator
- · Radiator, oil cooler

### **HYDRAULIC SYSTEM**

- Main pump: one variable displacement piston pump
- Pilot pump: gear
- Cylinders: boom, stick, bucket
- Swing with anti-reverse function
- · Pilot oil filter
- Pilot control shut-off lever

### **DIGGING EQUIPMENT**

- Boom, 2,450 mm (8')
- Arm, 1,320 mm (4'4")
- 0.11 m³ (0.144 yd³) bucket (SAE, heaped)

### **OPERATOR STATION**

- Pressurized and sealed cab with all-around visibility, large roof window, front window wiper and removable lower window
- Integrated Roll-Over Protective Structures ROPS (ISO12117-2)
- · Air conditioner, heater, defroster
- Mechanical suspension seat
- AM/FM radio
- Glass-breaking hammer
- · Cigarette lighter
- · Floor mat
- Fire extinguisher
- One key for all locks
- Rear view mirrors, 1 mounted on cab left, 1 on cab inside

### INSTRUMENTATION

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

### **ELECTRICAL**

- Alternator 12 V, 55 A
- System 12 V, one battery 12 V
- Working lights, 2 cab mounted, 1 boom mounted
- Starting, 12 V, 1.7 kW (2.3 hp)

### UNDERCARRIAGE

- 300 mm (12") steel track, double grouser
- Rollers, bottom 4 each side, top 1 each side
- Towing eye on base frame
- Short blade

### **GUARDS**

· Cover plate under travel frame

### **OTHER STANDARD EQUIPMENT** • 560 kg counterweight

- Maintenance tool kit
- Maintenance parts package

## **OPTIONAL EQUIPMENT**

### **HYDRAULIC SYSTEM**

- Security valves (1 on boom, 1 on arm and 1 on
- Hydraulic piping: Breaker & shear
- Quick coupler (Low pressure)
- Low pressure quick coupler

### **OPERATOR STATION**

• Operation protection guard (Include cab front and top guard, bar)

- Control joysticks with 2 switch & 1 proportional
   Falling-Object Protective Structures (FOPS)
- Safety net for front window

### **ELECTRICAL**

- Travel alarm
- Over loading warning

### **UPPER STRUCTURE**

Auxiliary counterweight

- Long blade

### **DIGGING EQUIPMENT**

- Arm: 1,700 mm (5'7")
- 0.07 m³ (0.09 yd³) bucket (SAE, heaped)



TOUGH WORLD. TOUGH EQUIPMENT.

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