



## ENGINE

Model	Isuzu AQ-4HK1X
Emissions Certification	Tier 4 Final
Fuel	Requires ultra-low sulfur fuel B5 biodiesel tolerant
Type	Water-cooled, 4-cycle diesel, high pressure common rail system – electric control. VGT Turbocharger w/ air cooled intercooler, SCR system
Cylinders	4-cylinder in-line
Displacement	317 in <sup>3</sup> (5.2 L)
Bore/Stroke	4.53 x 4.92 in (115 x 125 mm)
Fuel injection	Direct injection – electronic
Fuel filter	Replaceable, full flow spin-on cartridge
Air filter	Dry type element w/ warning restriction indicator
Oil filter	Replaceable, full flow spin-on cartridge
Engine gradeability:	
Side-to-side	35°
Fore and aft	35°
Net horsepower – SAE J1349 @ 2000 RPM:	177 hp (132.1 kW)
Net max. torque – SAE J1349 @ 1800 RPM:	458 lbf-ft (621 N·m)
Cooling operating range:	113° to -4°F (45° to -20°C)
Oil	Requires low-ash oil CJ-4

## DRIVETRAIN

Travel control	Dual stage relief/ counter balance design
Brakes	Mechanical disc
Service brakes	SAHR disc – each motor
Two speed travel:	
Max. high speed	3.4 mph (5.5 kph)
Max. low speed	2.2 mph (3.2 kph)
Automatic downshift	3.5
Drawbar pull	44,100 lbf (196 kN)
Gradeability	70% – 35° Slope

## ELECTRICAL

Voltage	24 Volts
Alternator rating	50 amp
Batteries	2 x 12 Volt
Battery reserve capacity	92 Ah/5 hour
Work lights – 6	24 Volt/70 watt
	1 upper, 2 arm, 1 boom, 2 cab

## OPERATOR ENVIRONMENT

Air conditioner output	18,100 BTU/hr
Heater output	20,150 BTU/hr
Sound level inside cab – ISO6395	70 dBA
Electrical outlet	12 Volt
Cab interior light	10 watt
Rear view camera	Standard
Seat	Air-suspension, heated and 65° tiltable
Monitor:	
	Rear view and side view – optional camera display; Mode 1: work mode; Travel mode; Attachment selection; Auto idle indicator; Fuel consumption gauge; Power boost icon; Fuel bar graph; Oil temperature bar graph; DEF/AdBlue bar graph; Auto glow indicator; Auxiliary mode display; Hour meter; Camera angle indicator; Mode 2: free swing/swing lock indicator; Light icon; Wiper icon; Mute icon; Seat belt icon; Warning messages; Time and date; Water temperature bar graph; DEF/AdBlue refill icon; Anti-theft icon; DTC indicator; Low output icon; SCR cleaning icon; SCR warning icons; Freeze protection; Trip meter; Pressure reading.

### Seat:

High-back seat w/ heat and air suspension;  
Adjustments: 65° tilt, manual weight, seat  
height headrest, lumbar support, backrest  
angle, pivoting armrests linked to consoles;  
Retractable seat belt and control consoles  
adjust independently of seat.

## ATTACHMENT

Boom	23 ft 4 in (7.1 m)
Arm option:	
Standard	16 ft 5 in (5.00 m)

## OPERATING WEIGHT

Operating weight	72,100 lb (32 700 kg)
w/ shoes	2 ft 0 in (600 mm)
w/ boom	23 ft 4 in (7.1 m)
w/ arm	16 ft 5 in (5.00 m)
w/ counterweight	18,000 lb (8 150 kg)
w/ Grab mass for garbage	3,880 lb (1 760 kg)

NOTE: W/ operator/full fuel/standard equipment.

## GROUND PRESSURE

@ Standard operating weight 9.4 psi (0.65 bar)  
w/ 2 ft 0 in (600 mm) flat shoes w/ 16 ft 5 in  
(5.00 m) arm, Grab mass for garbage  
3,880 lb (1 760 kg)

## HYDRAULICS

System design	Open center
Main pumps	Two-variable displacement/ axial piston
Max. rated flow per pump:	61.8 gpm (234 L/min)
Max. rated flow total:	123.6 gpm (468 L/min)
System pressures:	
Boom and arm	4,970 psi (343 bar)
w/ power boost	5,410 psi (373 bar)
Travel circuit	4,970 psi (343 bar)
Swing circuit	3,910 psi (270 bar)
Pilot pump	1 x gear design
Max. capacity	5.3 gpm (20 L/min)
Controls	w/ boom/arm holding valve
Right track travel, bucket and arm acceleration.	1 x Four-spool section
Left track travel, auxiliary, swing, boom and arm acceleration.	1 x Five-spool section
Work mode selections	SP: Speed Priority H: Heavy-Duty A: Automatic
Swing motor	Fixed displacement axial piston
Swing final drive	Planetary gear reduction
Travel motor	Two-speed independent travel/axial piston

### HYDRAULIC CYLINDERS

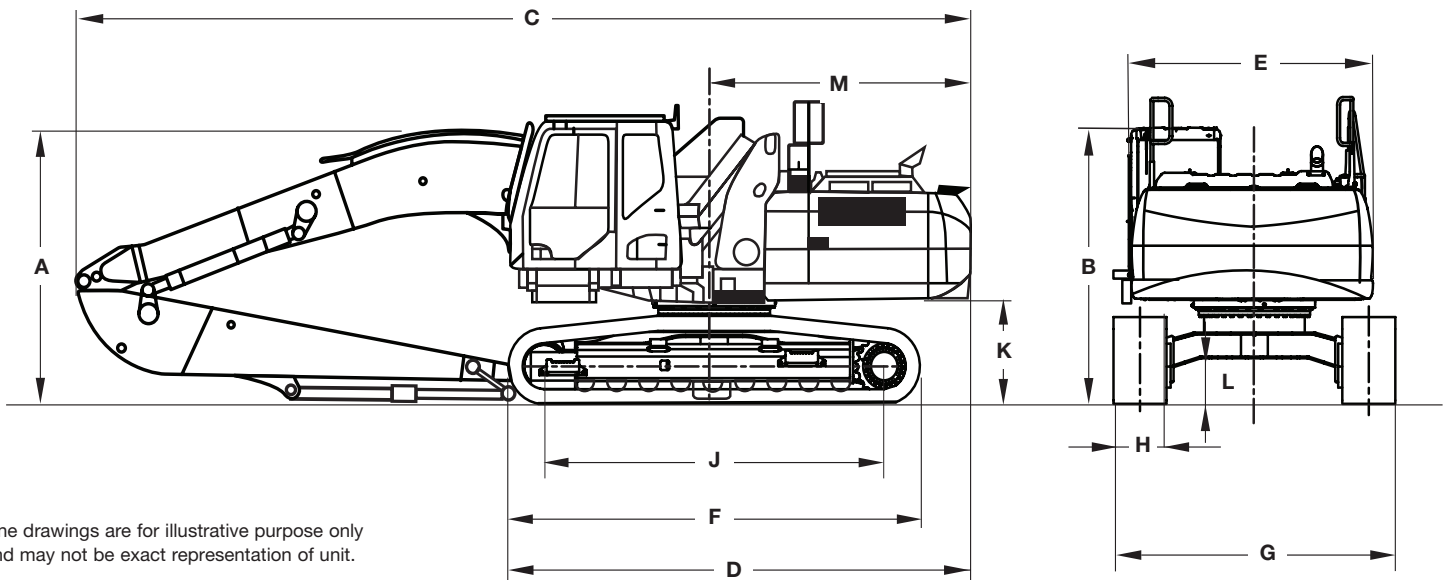
Boom cylinders	Two (2)
Cylinder bore	5.5 in (140 mm)
Cylinder rod diameter	3.7 in (95 mm)
Cylinder stroke	44.3 in (1 126 mm)
Arm cylinders	Two (2)
Cylinder bore	4.9 in (125 mm)
Cylinder rod diameter	3.5 in (90 mm)
Cylinder stroke	50.4 in (1 280 mm)
Bucket cylinders	One (1)
Cylinder bore	4.7 in (120 mm)
Cylinder rod diameter	3.3 in (85 mm)
Cylinder stroke	39.8 in (1 010 mm)
Cab elevating cylinders	One (1)
Cylinder bore	3.3 in (85 mm)
Cylinder rod diameter	2.0 in (50 mm)
Cylinder stroke	31.5 in (800 mm)

### SERVICE CAPACITIES

Fuel tank	108.3 gal (410 L)
Hydraulic system	66.0 gal (250 L)
Hydraulic tank	38.8 gal (147 L)
Engine oil w/ filter	6.1 gal (23.1 L)
Swing drive	2.6 gal (9.7 L)
Final drive	1.3 gal (5 L)
Cooling system	8.3 gal (31.4 L)
DEF Tank	31.7 gal (120 L)

### OTHER SPECIFICATIONS

Swing speed	11.0 RPM
Swing torque	51,500 lbf-ft (69.8 kN)
Swing brake	Mechanical disc
Undercarriage:	
Length	15 ft 4 in (4 680 mm)
Track Gauge	8 ft 6 in (2 590 mm)
Carrier rollers – per side	2
Track rollers – per side	9
Shoes – Flat Steel – per side	51
Shoe width – std.	2 ft 0 in (600 mm)
Link pitch	7.5 in (190 mm)
Track:	
Chain	Grease lubricated/strutted
Guides	Single
Adjustment	Hydraulic

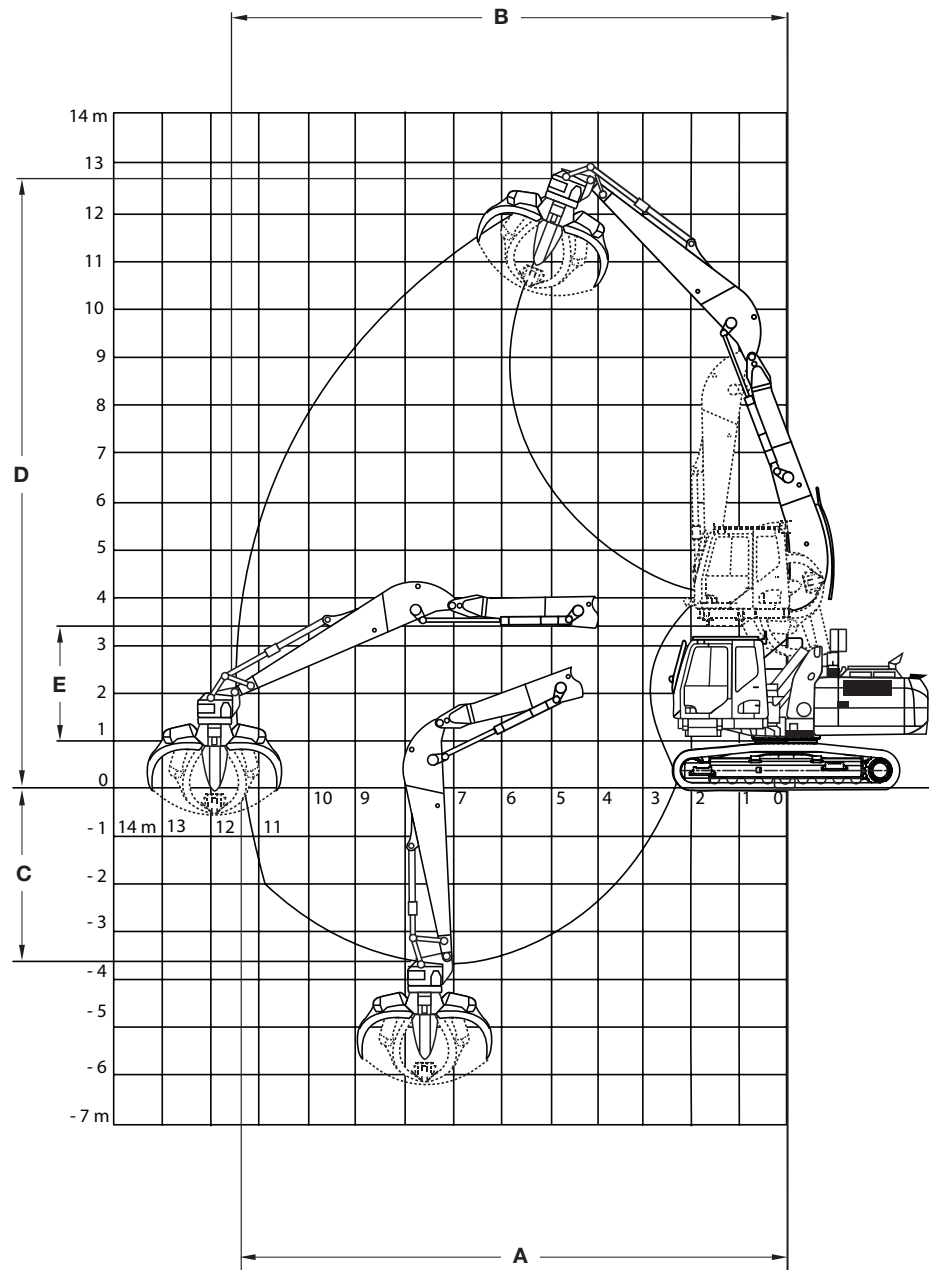


Line drawings are for illustrative purpose only and may not be exact representation of unit.

### DIMENSIONS

	16 ft 5 in (5.0 m) Arm
A. Overall height – to top of boom	10 ft 0 in (3 040 mm)
B. Cab height	10 ft 6 in (3 190 mm)
Overall height to top of guardrail	11 ft 0 in (3 360 mm)
C. Overall length – with attachment	33 ft 7 in (10 230 mm)
D. Overall length – without attachment	17 ft 6 in (5 330 mm)
E. Width of upper structure	9 ft 9 in (2 970 mm)
F. Track overall length	15 ft 4 in (4 680 mm)
G. Track overall width with 24 in (600 mm) shoes	10 ft 6 in (3 190 mm)
H. Track shoe width	24 in (600 mm)
J. Center to center – idler to sprocket	12 ft 7 in (3 840 mm)
K. Upper structure ground clearance	3 ft 9 in (1 140 mm)
L. Minimum ground clearance	20 in (500 mm)
M. Rear tail swing radius	9 ft 8 in (2 950 mm)

NOTE: With 16 ft 5 in (5.0 m) boom, 2 ft 0 in (600 mm) flat shoes, Grab mass for garbage 3,880 lb (1 760 kg), full fuel and operator.



**PERFORMANCE SPECS**

**16 ft 5 in (5.0 m) Arm**

A. Maximum reach at GRP	37 ft 5 in (11 410 mm)
B. Maximum reach (Arm top)	38 ft 0 in (11 580 mm)
C. Maximum depth	11 ft 11 in (3 610 mm)
D. Maximum height	41 ft 0 in (12 680 mm)
E. Cab riser stroke height	7 ft 6 in (2.3 m)

**LIFT CAPACITIES**

**CX290D MH – 23 ft 4 in (7.00 m) Boom and 16 ft 5 in (5.0 m) Arm** Lift capacities using a Grab mass for garbage weighing 3,880 lb (1 760 kg) and 18,000 lb (8 150 kg) counterweight.

Load (Lift Point Height)	MINIMUM REACH			5 ft (1.5 m)		10 ft (3 m)		15 ft (4.5 m)		20 ft (6 m)	
	@	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE
<b>+40 ft (12 m)</b>	15 ft 2 in (4.77 m)	16,150 lb* (7 490 kg)*	16,150 lb* (7 490 kg)*								
<b>+35 ft (10.5 m)</b>	18 ft 0 in (5.54 m)	16,650 lb* (7 470 kg)*	16,650 lb* (7 470 kg)*							16,100 lb* (7 280 kg)*	16,100 lb* (7 280 kg)*
<b>+30 ft (9 m)</b>	18 ft 11 in (5.76 m)	15,700 lb* (7 120 kg)*	15,700 lb* (7 120 kg)*							15,450 lb* (7 030 kg)*	15,450 lb* (7 030 kg)*
<b>+25 ft (7.5 m)</b>	18 ft 3 in (5.53 m)	16,300 lb* (7 440 kg)*	16,300 lb* (7 440 kg)*							15,750 lb* (7 220 kg)*	15,750 lb* (7 220 kg)*
<b>+20 ft (6 m)</b>	15 ft 10 in (4.76 m)	19,000 lb* (8 770 kg)*	19,000 lb* (8 770 kg)*							16,950 lb* (7 800 kg)*	16,950 lb* (7 800 kg)*
<b>+15 ft (4.5 m)</b>	10 ft 1 in (2.92 m)	31,150 lb* (14 890 kg)*	31,150 lb* (14 890 kg)*			(14 590 kg)*	(14 590 kg)*	23,250 lb* (10 760 kg)*	23,250 lb* (10 760 kg)*	18,900 lb* (8 720 kg)*	18,900 lb* (8 720 kg)*
<b>+10 ft (3 m)</b>	8 ft 6 in (2.60 m)	19,350 lb* (8 240 kg)*	19,350 lb* (8 240 kg)*			43,250 lb* (17 410 kg)*	43,250 lb* (17 410 kg)*	28,000 lb* (12 970 kg)*	28,000 lb* (12 970 kg)*	21,250 lb* (9 820 kg)*	18,850 lb (8 740 kg)
<b>+5 ft (1.5 m)</b>	9 ft 2 in (2.78 m)	6,600 lb* (2 980 kg)*	6,600 lb* (2 980 kg)*			9,300 lb* (3 960 kg)*	9,300 lb* (3 960 kg)*	32,050 lb* (14 820 kg)*	26,700 lb (12 370 kg)	23,400 lb* (10 810 kg)*	17,700 lb (8 200 kg)
<b>Groundline</b>	7 ft 9 in (2.37 m)	6,000 lb* (2 710 kg)*	6,000 lb* (2 710 kg)*			9,150 lb* (4 040 kg)*	9,150 lb* (4 040 kg)*	24,650 lb* (10 620 kg)*	24,650 lb* (10 620 kg)*	24,650 lb* (11 380 kg)*	16,800 lb (7 780 kg)
<b>-5 ft (-1.5 m)</b>	10 ft 3 in (3.09 m)	11,750 lb* (5 290 kg)*	11,750 lb* (5 290 kg)*					21,800 lb* (9 540 kg)*	21,800 lb* (9 540 kg)*	24,650 lb* (11 380 kg)*	16,250 lb (7 540 kg)
<b>-10 ft (-3 m)</b>	16 ft 0 in (4.78 m)	25,650 lb* (11 170 kg)*	22,150 lb (10 330 kg)							23,250 lb* (10 740 kg)*	16,050 lb (7 440 kg)

Load (Lift Point Height)	25 ft (7.5 m)		30 ft (9 m)		35 ft (10.5 m)		40 ft (12 m)		MAXIMUM REACH		
	END	SIDE	END	SIDE	END	SIDE	END	SIDE	@	END	SIDE
<b>+40 ft (12 m)</b>									17 ft 3 in (5.63 m)	13,400 lb* (5 870 kg)*	13,400 lb* (5 870 kg)*
<b>+35 ft (10.5 m)</b>	(5 620 kg)*	(5 620 kg)*							24 ft 10 in (7.75 m)	11,100 lb* (4 970 kg)*	11,100 lb* (4 970 kg)*
<b>+30 ft (9 m)</b>	14,450 lb* (6 560 kg)*	14,450 lb* (6 560 kg)*	(5 050 kg)*	(5 050 kg)*					29 ft 8 in (9.15 m)	10,150 lb* (4 580 kg)*	10,150 lb* (4 580 kg)*
<b>+25 ft (7.5 m)</b>	14,500 lb* (6 620 kg)*	14,500 lb* (6 620 kg)*	13,550 lb* (6 180 kg)*	11,050 lb (5 160 kg)					33 ft 1 in (10.14 m)	9,750 lb* (4 410 kg)*	9,300 lb (4 160 kg)
<b>+20 ft (6 m)</b>	15,100 lb* (6 940 kg)*	14,700 lb (6 830 kg)	13,800 lb* (6 310 kg)*	10,900 lb (5 080 kg)	10,750 lb* (5 590 kg)	8,350 lb (3 890 kg)			35 ft 5 in (10.84 m)	9,600 lb* (4 360 kg)*	8,150 lb (3 670 kg)
<b>+15 ft (4.5 m)</b>	16,200 lb* (7 450 kg)*	14,200 lb (6 580 kg)	14,350 lb* (6 580 kg)*	10,650 lb (4 940 kg)	11,850 lb (5 520 kg)	8,200 lb (3 830 kg)			37 ft 0 in (11.29 m)	9,700 lb* (4 420 kg)*	7,450 lb (3 370 kg)
<b>+10 ft (3 m)</b>	17,450 lb* (8 050 kg)*	13,550 lb (6 280 kg)	14,800 lb (6 880 kg)	10,250 lb (4 760 kg)	11,650 lb (5 410 kg)	8,000 lb (3 730 kg)			37 ft 10 in (11.53 m)	10,050 lb* (4 570 kg)*	7,050 lb (3 190 kg)
<b>+5 ft (1.5 m)</b>	18,650 lb* (8 600 kg)*	12,900 lb (5 970 kg)	14,400 lb (6 680 kg)	9,850 lb (4 580 kg)	11,400 lb (5 300 kg)	7,800 lb (3 630 kg)			38 ft 0 in (11.57 m)	10,100 lb (4 580 kg)	6,850 lb (3 120 kg)
<b>Groundline</b>	18,300 lb (8 490 kg)	12,350 lb (5 720 kg)	14,050 lb (6 520 kg)	9,550 lb (4 430 kg)	11,200 lb (5 210 kg)	7,650 lb (3 540 kg)			37 ft 5 in (11.41 m)	10,200 lb (4 620 kg)	6,900 lb (3 130 kg)
<b>-5 ft (-1.5 m)</b>	17,900 lb (8 310 kg)	11,950 lb (5 550 kg)	13,800 lb (6 400 kg)	9,300 lb (4 320 kg)	11,100 lb (5 150 kg)	7,500 lb (3 490 kg)			36 ft 3 in (11.05 m)	10,600 lb (4 800 kg)	7,150 lb (3 250 kg)
<b>-10 ft (-3 m)</b>	17,700 lb (8 220 kg)	11,800 lb (5 470 kg)	13,700 lb (6 350 kg)	9,200 lb (4 270 kg)					31 ft 2 in (9.58 m)	13,000 lb (5 830 kg)	8,800 lb (3 930 kg)

NOTE: \*Lift capacities marked with an asterisk (\*) are limited by 87% hydraulic capacity and 75% tipping capacity.

## STANDARD EQUIPMENT

### ENGINE

Isuzu AQ-4HK1X  
Tier 4 Final Certified  
Selective Catalytic Reduction – SCR  
Diesel Oxidation Catalyst – DOC  
Cooled Exhaust Gas Recirculation – CEGR  
EGR Coolers  
Four-cylinder turbo-charged diesel  
VGT turbocharger  
Electronic fuel injection  
High pressure common rail system  
Neutral safety start  
Auto-engine warm up  
Glow-plug pre-heat  
Fuel Economy Assist System – FEA  
Engine Protection Feature – EPF  
Dual-stage fuel filtration  
Dual element air filter  
Remote oil filter  
Drain for fuel tank  
Remote engine oil drain  
500-hour engine oil change interval  
24 Volt system  
Engine oil sample port  
Battery disconnect switch  
Emergency engine stop  
External Fuel and DEF gauges  
Fan housing  
Fuel cooler  
Fuel filter restriction indicator  
Fuel shut-off valve  
Idle start  
Radiator, oil cooler,  
intercooler – protective screen

### FUEL ECONOMY SYSTEMS

Engine Idle/Fuel Economy System:  
Auto-idle  
One-touch idle  
Auto-idle shut-down  
BEC – Boom Economy Control  
AEC – Auto Economy Control  
SWC – Swing Relief Control  
SSC – Spool Stroke Control

### HYDRAULICS

Auto power boost  
Auto swing priority  
Arm speed assistance – 2 pump flow  
Auxiliary flow control  
Auxiliary valve  
Boom speed assistance – 2 pump flow  
Control levers pre-wired for  
auxiliary hydraulics  
Electronically controlled hydraulic pumps  
Holding valve – Boom and Arm  
Hydraulic filter restriction indicator  
Neutral pump de-stroke  
Oil cooler  
Arm/Boom Shock reduction  
Anti-interference Device  
Emergency Cab Lowering Device

Power save  
Pump stand-by pressure  
Auto travel speed change  
Selectable work modes  
Free swing  
Hydraulic oil sample port  
Control pattern selector  
Pre-set auxiliary pump settings  
Auxiliary valve  
5,000-hour hydraulic oil change interval  
1,000-hour hydraulic filter change interval  
SAHR brake

### UPPER STRUCTURE

ISO mirrors – 3  
Upper mounted work light – 70 watt  
Swivel guard belly pan  
Center cover – over main control valve  
Fuel tank belly pan  
Handrail – RH access  
ISO guard rails  
Lifting eyes for counterweight  
Lockable fuel cap, service doors and tool box

### ATTACHMENTS

Boom – 23 ft 4 in (7.0 m)  
Arm – 15 ft 6 in (5.0 m)  
Boom mounted work light – 70 watt  
Auxiliary pipe brackets  
Centralized grease fittings  
Attachment cushion valve  
Arm and boom regeneration  
Chrome pins  
Easy Maintenance System (EMS) bushings  
Teardrop pin retention keepers

### OPERATOR ENVIRONMENT

ROPS protection  
FOPS cab top guard – Level 1  
Pressurized cab  
Face vent  
Cab lights – 2  
Interior dome light  
One-touch lock front window  
One piece window – right  
Safety glass windows  
Gate lock hydraulic activation  
Emergency exit and hammer  
Clear polycarbonate roof window  
with sunshade  
AC/heat/defrost with auto climate control  
LED Color monitor – 7 in (180 mm)  
26 selectable languages for monitor  
On-board diagnostic system  
10 programmable attachments settings on  
monitor – 5 single flow, 5 dual flow  
Seat belt – 3 in (76 mm)  
Heated high-back cloth seat with air  
suspension and 65° tilt adjustment  
Sliding seat – 3.54 in (90 mm)  
Adjustable armrests  
Tilting consoles – 4-position  
Sliding cockpit – 3.15 in (80 mm)  
Low-effort joystick controls

Controls pre-wired for auxiliary  
Single pedal travel  
Straight travel  
AM/FM radio with antenna, 2 speakers and  
Bluetooth capabilities  
Aux-in port for personal electronics  
Radio mute switch – joystick  
Rear-view camera  
Anti-theft system – start code system  
Rubber floormat  
12 Volt electric outlet  
24 Volt cigarette lighter  
Windshield wiper/washer  
Cup holder  
Storage compartments  
Warm/cool storage compartment  
Travel alarm with cancel switch  
Ignition keys  
One key start & lock-up  
Cab filter – external  
Cab handrails  
Operator's manual

### UNDERCARRIAGE

Long undercarriage  
23 in (600 mm) flat steel shoes  
Full overlap turntable bearing tub  
Single track chain guides  
Hydraulic track adjustment  
Sealed link chain  
Steps  
Carbody belly pan – swivel guard  
X-pattern carbody  
Lashing points – tie downs  
Extra Filter Kit:  
Engine oil filter  
Filter wrench  
Fuel filters  
Grease gun  
Green plug oil drain hose for  
engine oil drain  
Hydraulic return filter  
Pilot circuit hydraulic filter

### TELEMATICS

CASE SiteWatch™ Telematics – includes  
hardware and a 3-yr Advanced  
data subscription

## OPTIONAL EQUIPMENT

### ENGINE

Air pre-cleaner – Cyclone  
Reversible fan

### HYDRAULICS

Auxiliary hydraulics:  
Single acting/joystick activated  
Double acting/joystick activated – thumb  
Multi-function with electronic pressure control/joystick activated with electronic proportional controls  
Secondary low-flow/joystick activated  
Proportional hydraulic controls  
Hose Burst Check Valve – HBCV

### UPPER STRUCTURE

Rubber bumper guard – order through Service Parts

### UNDERCARRIAGE

23.6 in (600 mm) steel shoes, triple semi-grouser  
27.6 in (700 mm) steel shoes, triple semi-grouser  
31.5 in (800 mm) steel shoe  
Track guides – triple

### OPERATOR ENVIRONMENT

FOPS cab top guard – Level 2  
Front grill guard – 2 x 2 in (50.8 x 50.8 mm) screen mesh  
Front rock guard – vertical bars  
Two piece/OPG 1  
Front rock guard – vertical bars  
One piece/OPG 2  
Vandal guard (front window) with common key  
Rain deflector – not available with Front guards  
Sun visor  
Side-view camera  
LED Package:  
Includes 1 Side view camera and 6 LED Lights – 2 front cab mounted, 2 rear mounted and 1 mounted on each side

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CASE Construction Equipment is biodiesel-friendly. NOTE: All engines meet current EPA emissions regulations. All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.



Always read the Operator's Manual before operating any equipment. Inspect equipment before using it, and be sure it is operating properly. Follow the product safety signs and use any safety features provided.

Form No. CCE201902CX290DMH  
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**CX290D MH**

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