

# **CX235C SR**

# ENGINE

Model	Isuzu AM-4HK1X Cooled EGR
Emissions Certific	
Fuel	Requires ultra low-sulfur fuel B5 biodiesel tolerant
Type high	Water-cooled, 4-cycle, pressure common rail system Turbo-charged w/ air cooled intercooler, DPD system
Cylinders	4-cylinder in line
Displacement	317 in <sup>3</sup> (5.2 L)
Bore/Stroke	5 x 5 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 gradeabilit	ty:
Side-to-side Fore and aft	35° 35°
Net horsepower -	- SAE J1349 @ 1800 RPM: 160 hp (119.3 kW)
Net max. torque -	- SAE J1349 @ 1500 RPM: 458 lb·ft (621 N·m)
Cooling operating	g range: 109° to -13° F (43° to -25° 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 Max. low speed Automatic downshift	3.1 mph (5.0 kph) 2.0 mph (3.2 kph)
Drawbar pull	45,187 lbf (201 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	24 Volt
1 boom	70 watt
1 upper	70 watt

# **OPERATOR ENVIRONMENT**

Air conditioner output	13,492	BTU/hr
Heater output	12,892	BTU/hr
Sound level inside cab - ISO639	95	70 dBA
Electrical outlet		12 Volt
Cab interior light		10 watt
Rear view camera	S	tandard
Seat	Air-sus	pension

# ATTACHMENT

Boom	18 ft 8 in (5 700 mm)
Arm	9 ft 8 in (2 940 mm)
Bucket digging force*	31,923 lb (142 kN)
w/ Auto Power-Boost	34,171 lb (152 kN)

# **OPERATING WEIGHT**

Operating weight	55,997 lb (25 400 kg)
w/ shoes	2 ft 7 in (800 mm)
w/ boom	18 ft 8 in (5 700 mm)
w/ arm	9 ft 8 in (2 940 mm)
w/ bucket	1,435 lb (651 kg)
w/ counterweight	13,095 lb (5 940 kg)

NOTE: w/ operator/full fuel/standard equipment

# **GROUND PRESSURE**

@ Standard operating weight 5.8 psi (0.4 bar) w/ 31.5 in (800 mm) triple semi-grouser shoes

NOTE: \*Digging force ratings based on ISO6015.

# **HYDRAULICS**

Open center
variable displacement/ axial pistons
55.7 gpm (211 L/min)
t 4,975 psi (343 bar) 5,337 psi (368 bar)
4,975 psi (343 bar)
4,264 psi (294 bar)
1 x gear design
4.8 gpm (18 L/min)
oom/arm holding valve
Four-spool section
Five-spool section
SP: Speed Priority H: Heavy Duty A: Automatic

## HYDRAULICS (cont.)

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	4.7 in (120 mm)
Cylinder rod diameter	3.3 in (85 mm)
Cylinder stroke	53.9 in (1 370 mm)
Arm cylinder	One (1)
Cylinder bore	5.5 in (140 mm)
Cylinder rod diameter	3.9 in (100 mm)
Cylinder stroke	57.5 in (1 460 mm)
Bucket cylinder	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)

# **SERVICE CAPACITIES**

Fuel tank	85 gal (320 L)
Hydraulic system	67 gal (252 L)
Hydraulic tank	30 gal (114 L)
Engine oil w/ filter	6 gal (23.1 L)
Swing drive	5.3 qt (5 L)
Final drive – each side	5.3 qt (5 L)
Cooling system	8 gal (30.9 L)

## **OTHER SPECIFICATIONS**

Swing speed	0 – 11.8 RPM
Swing torque	47,204 lb·ft (64 000 N·m)
Swing brake	Mechanical disc
Undercarriage: Length Track gauge Carrier rollers Track rollers	14 ft 8 in (4 470 mm) 7 ft 10 in (2 400 mm) 2 8
Shoes – Triple grouse Shoe width – std. Link pitch	er 49 2 ft 7 in (800 mm) 7 in (190 mm)
Track: Chain Guides Adjustment	Grease lubricated/strutted Single Hydraulic

# **LIFT CAPACITIES**

Load (Lift Point	5 ft (1.5 m)		10 ft (3 m)		15 ft (4.5 m)		20 ft (6 m)		25 ft (7.5 m)		MAXIMUM REACH		
Height)	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE	e	END	SIDE
+30 ft (9 m)					10,000 lb* (4 536 kg)*	10,000 lb* (4 536 kg)*					16 ft 8 in (5.08 m)	8,500 lb* (3 856 kg)*	8,500 lb* (3 856 kg)*
+25 ft (7.5 m)					8,050 lb* (3 651 kg)*	8,050 lb* (3 651 kg)*	9,800 lb* (4 445 kg)*	9,800 lb* (4 445 kg)*			22 ft 11 in (6.99 m)	7,300 lb* (3 311 kg)*	7,300 lb* (3 311 kg)*
+20 ft (6 m)					11,300 lb* (5 126 kg)*	11,300 lb* (5 126 kg)*	10,750 lb* (4 876 kg)*	10,750 lb* (4 876 kg)*	9,800 lb* (4 445 kg)*	8,200 lb (3 719 kg)	26 ft 5 in (8.05 m)	6,900 lb* (3 130 kg)*	6,900 lb* (3 130 kg)*
+15 ft (4.5 m)			18,000 lb* (8 165 kg)*	18,000 lb* (8 165 kg)*	14,350 lb* (6 509 kg)*	14,350 lb* (6 509 kg)*	11,900 lb* (5 398 kg)*	11,600 lb (5 262 kg)	10,750 lb* (4 876 kg)*	8,050 lb (3 651 kg)	28 ft 7 in (8.71 m)	6,850 lb* (3 107 kg)*	6,300 lb (2 858 kg)
+10 ft (3 m)			26,800 lb* (12 156 kg)*	26,800 lb* (12 156 kg)*	18,500 lb* (8 391 kg)*	17,350 lb* (7 870 kg)*	13,900 lb* (6 305 kg)*	11,150 lb (5 058 kg)	11,650 lb* (5 284 kg)*	7,800 lb (3 538 kg)	29 ft 6 in (8.99 m)	7,050 lb* (3 198 kg)*	5,800 lb (2 631 kg)
+5 ft (1.5 m)					21,650 lb* (9 820 kg)*	16,300 lb (7 394 kg)	15,650 lb* (7 099 kg)*	10,600 lb (4 808 kg)	12,000 lb (5 443 kg)	7,500 lb (3 402 kg)	29 ft 6 in (8.99 m)	7,500 lb* (3 402 kg)*	5,700 lb (2 585 kg)
Groundline			17,500 lb* (7 938 kg)*	17,500 lb* (7 938 kg)*	22,850 lb* (10 365 kg)*	15,650 lb (7 099 kg)	16,550 lb* (7 507 kg)*	10,200 lb (4 627 kg)	11,800 lb (5 352 kg)	7,300 lb (3 311 kg)	28 ft 7 in (8.71 m)	8,250 lb* (3 742 kg)*	5,950 lb (2 699 kg)
-5 ft (-1.5 m)	18,100 lb* (8 210 kg)*	18,100 lb* (8 210 kg)*	25,650 lb* (11 635 kg)*	25,650 lb* (11 635 kg)*	22,600 lb* (10 251 kg)*	15,550 lb (7 053 kg)	16,500 lb (7 484 kg)	10,100 lb (4 581 kg)	11,750 lb (5 330 kg)	7,250 lb (3 289 kg)	26 ft 9 in (8.15 m)	9,700 lb* (4 400 kg)*	6,600 lb (2 994 kg)
-10 ft (-3 m)	25,300 lb* (11 476 kg)*	25,300 lb* (11 476 kg)*	29,950 lb* (13 585 kg)*	29,950 lb* (13 585 kg)*	20,950 lb* (9 503 kg)*	15,800 lb (7 167 kg)	15,300 lb* (6 940 kg)*	10,300 lb (4 672 kg)			23 ft 8 in (7.21 m)	11,350 lb* (5 148 kg)*	8,000 lb (3 629 kg)
-15 ft (-4.5 m)			23,450 lb* (10 637 kg)*	23,450 lb* (10 637 kg)*	16,550 lb* (7 507 kg)*	16,050 lb (7 280 kg)					19 ft 0 in (5.79 m)	11,150 lb* (5 058 kg)*	11,150 lb* (5 058 kg)*

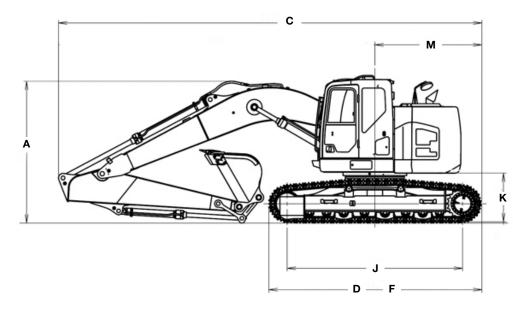
7 ft 10 in (2.40 m) Lift capacities using a 1,550 lb (703 kg) bucket, 13,092 lb (5 940 kg) counterweight.

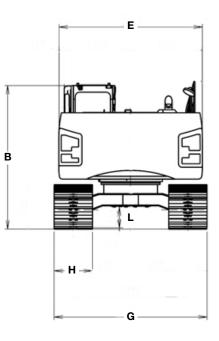
9 ft 8 in (2.94 m) Lift capacities using a 1,450 lb (658 kg) bucket, 13,092 lb (5 940 kg) counterweight.

Load (Lift Point Height)	5 ft (1.5 m)		10 ft (3 m)		15 ft (4.5 m)		20 ft (6 m)		25 ft (7.5 m)		30 ft (9 m)		MAXIMUM REACH		
	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE	END	SIDE	e	END	SIDE
+30 ft (9 m)					4,700 lb* (2 132 kg)*	4,700 lb* (2 132 kg)*							19 ft 7 in (5.97 m)	5,650 lb* (2 563 kg)*	5,650 lb* (2 563 kg)*
+25 ft (7.5 m)							8,850 lb* (4 014 kg)*	8,850 lb* (4 014 kg)*					25 ft 0 in (7.62 m)	4,950 lb* (2 245 kg)*	4,950 lb* (2 245 kg)*
+20 ft (6 m)							9,850 lb* (4 468 kg)*	9,850 lb* (4 468 kg)*	8,950 lb* (4 060 kg)*	8,450 lb (3 833 kg)			28 ft 3 in (8.61 m)	4,700 lb* (2 132 kg)*	4,700 lb* (2 132 kg)*
+15 ft (4.5 m)			10,950 lb* (4 967 kg)*	10,950 lb* (4 967 kg)*	12,300 lb* (5 579 kg)*	12,300 lb* (5 579 kg)*	10,950 lb* (4 967 kg)*	10,950 lb* (4 967 kg)*	10,050 lb* (4 559 kg)*	8,250 lb (3 742 kg)	5,300 lb* (2 404 kg)*	5,300 lb* (2 404 kg)*	30 ft 2 in (9.19 m)	4,650 lb* (2 109 kg)*	4,650 lb* (2 109 kg)*
+10 ft (3 m)			23,800 lb* (10 795 kg)*	23,800 lb* (10 795 kg)*	17,100 lb* (7 756 kg)*	17,100 lb* (7 756 kg)*	13,200 lb* (5 987 kg)*	11,400 lb (5 171 kg)	11,100 lb* (5 035 kg)*	7,950 lb (3 606 kg)	7,950 lb* (3 606 kg)*	5,800 lb (2 631 kg)	31 ft 1 in (9.47 m)	4,850 lb* (2 200 kg)*	4,850 lb* (2 200 kg)*
+5 ft (1.5 m)			21,000 lb* (9 525 kg)*	21,000 lb* (9 525 kg)*	20,850 lb* (9 457 kg)*	16,700 lb (7 575 kg)	15,150 lb* (6 872 kg)*	10,800 lb (4 899 kg)	12,100 lb* (5 488 kg)*	7,650 lb (3 470 kg)	8,700 lb* (3 946 kg)*	5,650 lb (2 563 kg)	31 ft 1 in (9.47 m)	5,150 lb* (2 336 kg)*	5,150 lb* (2 336 kg)*
Groundline			19,400 lb* (8 800 kg)*	19,400 lb* (8 800 kg)*	22,750 lb* (10 319 kg)*	15,900 lb (7 212 kg)	16,400 lb* (7 439 kg)*	10,350 lb (4 695 kg)	11,900 lb (5 398 kg)	7,400 lb (3 357 kg)	6,800 lb* (3 084 kg)*	5,550 lb (2 517 kg)	30 ft 3 in (9.22 m)	5,700 lb* (2 585 kg)*	5,500 lb (2 495 kg)
-5 ft (-1.5 m)	16,250 lb* (7 371 kg)*	16,250 lb* (7 371 kg)*	24,800 lb* (11 249 kg)*	24,800 lb* (11 249 kg)*	22,850 lb* (10 365 kg)*	15,600 lb (7 076 kg)	16,550 lb (7 507 kg)	10,150 lb (4 604 kg)	11,750 lb (5 330 kg)	7,300 lb (3 311 kg)			28 ft 6 in (8.69 m)	6,650 lb* (3 016 kg)*	6,000 lb (2 722 kg)
-10 ft (-3 m)	22,350 lb* (10 138 kg)*	22,350 lb* (10 138 kg)*	32,050 lb* (14 538 kg)*	30,800 lb (13 971 kg)	21,850 lb* (9 911 kg)*	15,750 lb (7 144 kg)	16,000 lb* (7 257 kg)*	10,200 lb (4 627 kg)	11,650 lb* (5 284 kg)*	7,450 lb (3 379 kg)			25 ft 8 in (7.82 m)	8,400 lb* (3 810 kg)*	7,100 lb (3 221 kg)
-15 ft (-4.5 m)	32,300 lb* (14 651 kg)*	32,300 lb* (14 651 kg)*	26,700 lb* (12 111 kg)*	26,700 lb* (12 111 kg)*	18,650 lb* (8 459 kg)*	16,150 lb (7 326 kg)	13,050 lb* (5 919 kg)*	10,600 lb (4 808 kg)					21 ft 4 in (6.50 m)	11,050 lb* (5 012 kg)*	9,500 lb (4 309 kg)

NOTE: \*Lift capacities do not exceed 75% of the minimum tipping load or 87% of the hydraulic lift capacity.

Capacities that are marked with an asterisk are hydraulic limited.



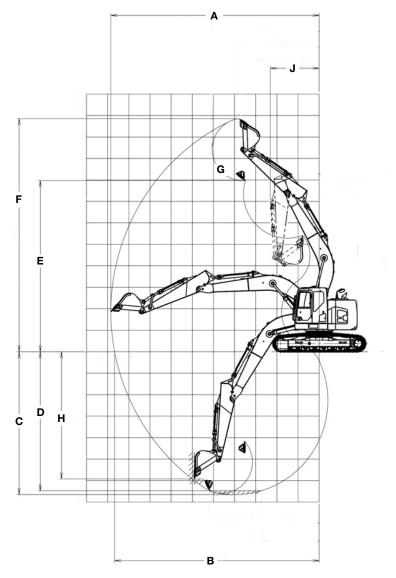


Line drawings are for illustrative purpose only and may not be exact representation of unit.

# DIMENSIONS

		7 ft 10 in (2.40 m) Arm	9 ft 8 in (2.94 m) Arm		
Α.	Overall height - with attachment	10 ft 5 in (3 180 mm)	10 ft 2 in (3 090 mm)		
В.	Cab height	10 ft 0 in (3 040 mm)	10 ft 0 in (3 040 mm)		
C.	Overall length – with attachment	29 ft 3 in (8 920 mm)	29 ft 0 in (8 830 mm)		
D.	Overall length – without attachment	14 ft 8 in (4 470 mm)	14 ft 8 in (4 470 mm)		
Ε.	Width of upper structure	9 ft 10 in (2 990 mm)	9 ft 10 in (2 990 mm)		
F.	Track overall length	14 ft 8 in (4 470 mm)	14 ft 8 in (4 470 mm)		
G.	Track overall width with 23.6 in (600 mm) shoes	10 ft 6 in (3 190 mm)	10 ft 6 in (3 190 mm)		
Н.	Track shoe width	2 ft 7 in (800 mm)	2 ft 7 in (800 mm)		
J.	Center to center – idler to sprocket	12 ft 0 in (3 660 mm)	12 ft 0 in (3 660 mm)		
К.	Upper structure ground clearance	3 ft 4 in (1 020 mm)	3 ft 4 in (1 020 mm)		
L.	Minimum ground clearance	1 ft 5 in (440 mm)	1 ft 5 in (440 mm)		
м.	Rear tail swing radius	5 ft 8 in (1 720 mm)	5 ft 8 in (1 720 mm)		
Ope	erating weight*	55,803 lb (25 312 kg)	55,997 lb (25 400 kg)		
Gro	ound pressure	5.8 psi (0.4 bar)	5.8 psi (0.4 bar)		

NOTE: \*With 31.5 in (800 mm) track shoe, 1,550 lb (703 kg) bucket, 165 lb (75 kg) operator, full fuel and standard equipment.



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

# **PERFORMANCE SPECS**

	7 ft 10 in (2.40 m) Arm	9 ft 8 in (2.94 m) Arm		
A. Maximum dig radius	30 ft 9 in (9 370 mm)	32 ft 4 in (9 850 mm)		
B. Dig radius at groundline	30 ft 1 in (9 180 mm)	31 ft 9 in (9 670 mm)		
C. Maximum dig depth	20 ft 1 in (6 120 mm)	21 ft 10 in (6 650 mm)		
<b>D.</b> Dig depth – 8 ft 0 in (2.44 m) level bottom	19 ft 5 in (5 910 mm)	21 ft 3 in (6 480 mm)		
E. Dump height	25 ft 0 in (7 630 mm)	26 ft 2 in (7 970 mm)		
F. Maximum reach height	34 ft 6 in (10 515 mm)	35 ft 7 in (10 850 mm)		
G. Bucket rotation	177°	177°		
H. Maximum vertical wall dig depth	18 ft 0 in (5 480 mm)	19 ft 5 in (5 920 mm)		
J. Minimum swing radius	8 ft 4 in (2 550 mm)	7 ft 7 in (2 310 mm)		
Arm digging force:				
Standard	27,652 lb (123 kN)	23,155 lb (103 kN)		
Power Boost	29,675 lb (132 kN)	24,729 lb (110 kN)		
Bucket digging force:				
Standard	31,923 lb (142 kN)	31,923 lb (142 kN)		
Power Boost	34,171 lb (152 kN)	34,171 lb (152 kN)		

# **STANDARD EQUIPMENT**

#### **OPERATOR ENVIRONMENT**

## See page 1

ENGINE Isuzu four-cylinder turbo-charged diesel Tier 4 Interim Certified - CEGR Electronic fuel injection High pressure common rail system Diesel Particulate Defuser System - DPD Neutral safety start Auto-engine warm up Glow-plug pre-heat **EPF – Engine Protection Feature** Dual-stage fuel filtration Dual element air filter Remote oil filter Green plug oil drain 500-hour engine oil change interval 24-volt system Requires CJ-4 engine oil Requires ultra low-sulfur fuel

# FUEL ECONOMY SYSTEMS

Engine Idle/Fuel Economy System: Auto-idle One-touch idle 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 Auto travel speed change Selectable work modes ISO pattern controls Pre-set auxiliary pump settings Auxiliary valve Auxiliary pipe brackets 5,000-hour hydraulic oil change interval 1,000-hour hydraulic filter change interval SAHR brake

# UPPER STRUCTURE

Right and left side mirrors Isolation mounted cab – fluid and spring Common key vandal locks Upper mounted work light – 70 watt Swivel guard belly pan

#### UNDERCARRIAGE

31.5 in (800 mm) steel shoes, triple semi-grouserFull overlap turntable bearing tubSingle track chain guidesHydraulic track adjustmentX-pattern carbody

#### ATTACHMENTS

Boom – 18 ft 8 in (5.70 m) Arm – 9 ft 8 in (2.94 m) Heavy-duty bucket linkage Boom mounted work light – 70 watt Auxiliary pipe brackets Centralized grease fittings Attachment cushion valve

## Arm and boom regeneration

# TELEMATICS

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

#### **OPTIONAL EQUIPMENT**

Front grill guard - 2 x 2 screen mesh

Vertical bars - two piece/OPG 1

Vertical bars - fixed/one piece/OPG 2

#### **OPERATOR ENVIRONMENT**

FOPS cab top guard - Level 2

Control pattern selector

Front rock guard:

Front rock guard:

Vandal guard

Rain deflector Sun visor

#### **HYDRAULICS**

Auxiliary hydraulics: Single acting/joystick activated Double acting/joystick activated Multi-function/joystick activated Secondary low-flow/joystick activated

#### UNDERCARRIAGE

23.6 in (600 mm) rubber shoes23.6 in (600 mm) steel shoes, triple semi-grouser27.6 in (700 mm) steel shoes, triple semi-grouser

#### ATTACHMENTS

Arm – 7 ft 10 in (2.40 m) Coupler/Case multi-pin grabber Buckets: Heavy-duty Extreme-duty Load holding control Free swing – order kit through Service Parts Hose Burst Check Valve – HBCV

#### BUCKETS

Side-view camera

Application	Width	SAE Heaped Capacity
General Purpose	24 in (0.61 m) to 48 in (1.22 m)	0.65 yd <sup>3</sup> (0.50 m <sup>3</sup> ) to 1.53 yd <sup>3</sup> (1.17 m <sup>3</sup> )
Heavy-duty	24 in (0.61 m) to 48 in (1.22 m)	0.64 yd <sup>3</sup> (0.49 m <sup>3</sup> ) to 1.51 yd <sup>3</sup> (1.15 m <sup>3</sup> )
Extreme-duty	24 in (0.61 m) to 42 in (1.07 m)	0.58 yd <sup>3</sup> (0.44 m <sup>3</sup> ) to 1.19 yd <sup>3</sup> (0.91 m <sup>3</sup> )
Heavy-duty coupler	24 in (0.61 m) to 39 in (0.99 m)	0.55 yd <sup>3</sup> (0.42 m <sup>3</sup> ) to 1.03 yd <sup>3</sup> (0.79 m <sup>3</sup> )
Ditching	60 in (0.61 m) to 66 in (1.68 m)	1.08 yd <sup>3</sup> (0.83 m <sup>3</sup> ) to 1.20 yd <sup>3</sup> (0.92 m <sup>3</sup> )

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NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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