



**ENGINE**

Model	Isuzu 6HKIX	
Type	Common-rail direct-injection, water-cooled, turbocharged, intercooled diesel with EGR	
Rated capacity (ISO 14396 (SAE J1995))	kW (hp)	161 (216) @ 1800rpm
Number of cylinders	6	
Bore and stroke	mm (in)	115 x 125 (4.5 x 4.9)
Displacement	litres (in <sup>3</sup> )	7.8 (475)
Battery	2 x 12 volt heavy duty	
Alternator	24V 50A	
Starter motor	24V 4.5kW	
Air filter type	Dry element type with secondary safety element and in-cab warning indicator	
Cooling intercooler	Suction fan with side-by-side water, hydraulic oil and sections and optional swing-out air-conditioning condenser	

**HYDRAULIC SYSTEM**

Type	Load-sensing open-centre system	
Additional circuits	A range of additional high- and low-flow circuits can be added depending upon specification	
Main pump	2 axial piston type variable displacement pumps	
Maximum pump flow	l/min (UK gal/min)	2 x 250 (2 x 55)
<b>Relief valve settings</b>		
Implement	bar (lb/in <sup>2</sup> )	373 (5410)
Travel	bar (lb/in <sup>2</sup> )	343 (4975)
Swing	bar (lb/in <sup>2</sup> )	289 (4190)
Pilot circuit	bar (lb/in <sup>2</sup> )	40 (580)

**ENVIRONMENT**

Engine emissions	Fully compliant with EU Stage III A and EPA Tier 3 exhaust emissions regulations	
<b>Noise levels</b>		
LwA external	dBA	104
LwA operator ear	dBA	74

**SWING SYSTEM**

Type	Axial piston motor	
Swing lock	Hydraulically actuated multi-disc brake integrated with swing motor	
Swing speed	rpm	10
Swing torque	kN (lb/ft)	89 (20008)
Maximum pressure	bar (lb/in <sup>2</sup> )	290 (4206)

**DRIVES AND BRAKES**

Steering control	Twin pedal and levers giving independent track control	
Drive method	Hydrostatic	
Travel operation	3-speed with automatic shift between medium and high speed	
Gradeability	70% 35°	
<b>Maximum travel speeds</b>		
Low	kph (mph)	2.2 (1.37)
Medium	kph (mph)	3.2 (1.99)
High	kph (mph)	5.3 (3.36)
Tractive effort	kN (kgf/lbf)	236 (23963/52830)
Brake system	Hydraulically operated discs in each travel motor	

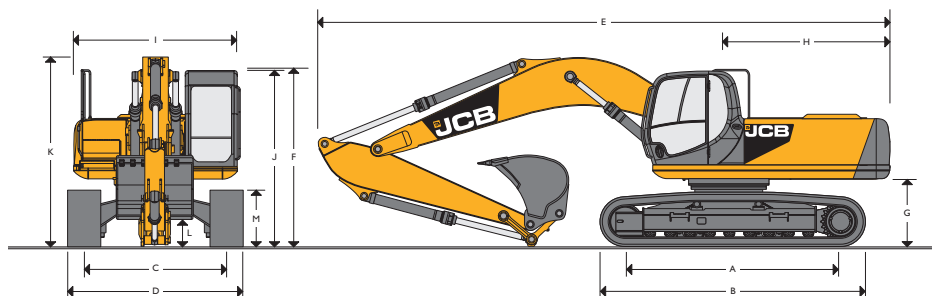
**UNDERCARRIAGE**

Construction	Fully welded X-frame type with track and central underguarding. Angled side members with top-roller dirt relief holes	
<b>Track assembly</b>		
Type	Greased and sealed for life	
Shoes (each side)	50	
Tension	Combined spring and hydraulic	
Track guides (each side)	2	
<b>Rollers</b>		
Track rollers (each side)	9	
Carrier rollers (each side)	2	

**COOLANT AND LUBRICANT CAPACITY (REFILLING)**

Fuel tank	litres (UK gal)	567 (125)
Radiator	litres (UK gal)	30 (6.6)
Engine oil	litres (UK gal)	38 (8.4)
Swing drive	litres (UK gal)	16 (3.5)
Hydraulic tank	litres (UK gal)	163 (36)
Final drive (each side)	litres (UK gal)	3.5 (0.8)

## STATIC DIMENSIONS – JS290 NLC/LC



Dimensions in millimetres (ft-in)		NLC	LC	
A	Track length on ground	3990 (13-1)	3990 (13-1)	
B	Undercarriage overall length	4860 (15-11)	4860 (15-11)	
C	Track gauge	2390 (7-10)	2600 (8-6)	
D	Width over tracks (600mm trackshoes)	2990 (8-6)	3200 (10-6)	
D	Width over tracks (700mm trackshoes)	3090 (10-2)	3300 (10-10)	
D	Width over tracks (800mm trackshoes)	3190 (10-6)	3400 (11-2)	
D	Width over tracks (900mm trackshoes)	3290 (10-10)	3500 (11-6)	
<b>Dipper lengths</b>		<b>2.50m (8ft 2in)</b>	<b>3.10m (10ft 2in)</b>	<b>3.70m (12ft 2in)</b>
E	Transport length with Monoboom	10529 (34-6)	10402 (34-1)	10412 (34-2)
F	Transport height with Monoboom	3447 (11-3)	3136 (10-3)	3251 (10-7)
G	Counterweight clearance (to cut bolt)		1242 (4-1)	
H	Tailswing radius		3000 (9-10)	
I	Width of superstructure		2990 (9-10)	
J	Height over cab		3236 (10-6)	
K	Height over grab rail		3245 (10-5)	
L	Ground clearance		593 (1-9)	
M	Track height		1059 (3-5)	

## WEIGHTS AND GROUND BEARING PRESSURES

Figures include 6.2m (20ft 4in) monoboom, 3.1m (10ft 2in) arm, 1.245m<sup>3</sup> (1.63yd<sup>3</sup>) (979kg (2158lb)) bucket, full fuel tank and operator.

Track plate width	mm (in)	600 (24)	700 (28)	800 (31)	900 (35)
Machine weight	kg (lb)	31454 (69344)	31853 (70224)	32443 (71525)	32867 (72459)
Ground bearing pressure	kg/cm <sup>2</sup> (lb/in <sup>2</sup> )	0.62 (8.80)	0.54 (7.68)	0.48 (6.83)	0.43 (6.12)

Using 1344 radius bucket

## BUCKET AND ARM FORCE

Arm length		2.50m (8ft 2in)	3.10m (10ft 2in)	3.70m (12ft 2in)
Bucket digging force	kN (lbf)	233.2 (57012)	233.2 (57012)	233.2 (57012)
Bucket digging force at power boost	kN (lbf)	253.6 (52426)	253.6 (52426)	253.6 (52426)
Arm crowd force	kN (lbf)	159.3 (35812)	128.7 (28933)	111 (24954)
Arm crowd force at power boost	kN (lbf)	173.1 (38914)	139.8 (31428)	120.7 (27134)

## STANDARD EXCAVATING BUCKETS

JS 290 Bucket and arm combination		900 (35)	1000 (39)	1200 (47)	1350 (53)	1500 (59)	1600 (63)	1800 (71)
Bucket width	mm (in)	900 (35)	1000 (39)	1200 (47)	1350 (53)	1500 (59)	1600 (63)	1800 (71)
Bucket capacity	m <sup>3</sup> (yd <sup>3</sup> )	0.85 (1.11)	0.98 (1.28)	1.245 (1.63)	1.45 (1.9)	1.49 (1.95)	1.61 (2.1)	1.845 (2.41)
Bucket weight	kg (lb)	827 (1823)	871 (1920)	979 (2158)	1046 (2306)	1090 (2403)	1133 (2498)	1217 (2683)
<b>Dipper length</b>								
2.50m		○	○	○	○	○	●	●
3.10m		○	○	○	●	●	■	–
3.70m		○	○	●	■	■	–	–

○ Material weight up to 2000kg/m<sup>3</sup> (1.35t/yd<sup>3</sup>)

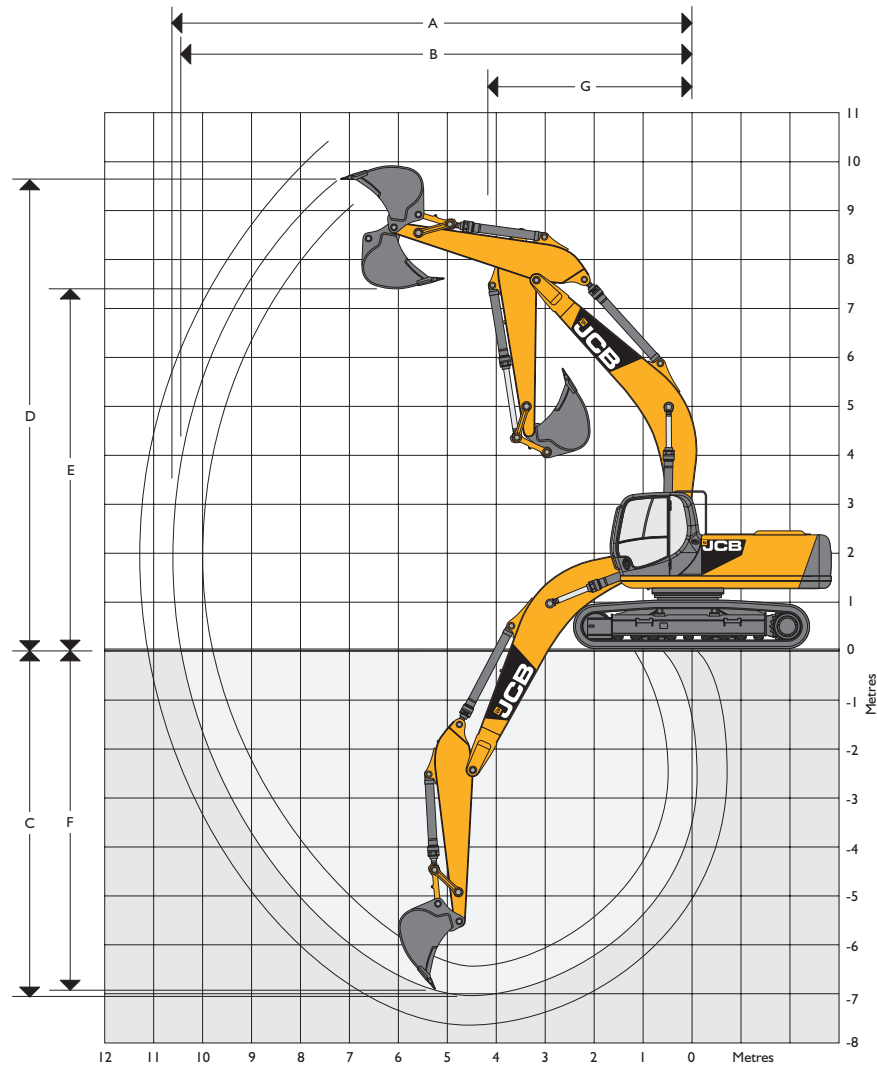
● Material weight up to 1600kg/m<sup>3</sup> (1.13t/yd<sup>3</sup>)

■ Material weight up to 1200kg/m<sup>3</sup> (0.90t/yd<sup>3</sup>)

These recommendations are given as a guide based on typical operating conditions.

Please contact your distributor for the correct selection of buckets and attachments to suit the application.

## WORKING RANGE – JS290 NLC/LC



## WORKING RANGE – JS290 NLC/LC

Boom length 6.20m (20ft 4in)		2.5m (8ft 2in)	3.1m (10ft 2in)	3.7m (12ft 2in)
Dipper length				
A	Maximum digging reach	m (ft-in)	10 (32-11)	11.3 (37-1)
B	Maximum digging reach (on ground)	m (ft-in)	9.8 (32-2)	11 (36-4)
C	Maximum digging depth	m (ft-in)	6.4 (21-1)	7.6 (25-0)
D	Maximum digging height	m (ft-in)	9.6 (31-8)	10 (32-10)
E	Maximum dumping height	m (ft-in)	7 (23-1)	7.9 (25-10)
F	Maximum vertical wall cut depth	m (ft-in)	3.7 (12-3)	4.6 (15-1)
G	Minimum swing radius	m (ft-in)	4.2 (13-9)	4.1 (13-4)
Bucket rotation		deg.	185°	185°



LIFT CAPACITIES – Dipper length: 2.5m, Monoboom: 6.2m, Trackplates: 600mm, No bucket.

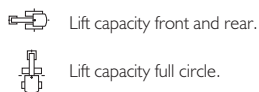
JS290 NLC

Load Point	Reach from swing centre																				Max.	
	1.0m		2.0m		3.0m		4.0m		5.0m		6.0m		7.0m		8.0m		9.0m					
Reach																						
Ht.	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm
8.0m												7920*	7500							7940*	7350	6067
7.0m												7760*	7500							7840*	5820	6934
6.0m												8130*	7350	7860*	5690					7850*	4950	7565
5.0m							11710*	11710*	9860*	9430	8810*	7100	8200*	5560	7580	4430				7550	4410	8019
4.0m									11390*	8890	9710*	6790	8730*	5380	7490	4340				7010	4060	8326
3.0m									12980*	8350	10670*	6470	9070	5180	7360	4230				6680	3840	8501
2.0m									14280*	7930	11230	6190	8860	5000	7240	4120				6530	3720	8553
1.0m									14720	7660	10990	5990	8700	4850	7130	4020				6540	3700	8484
0m									14570	7540	10840	5860	8580	4750	7070	3970				6720	3780	8291
- 1.0m							18080*	10550	14530	7500	10780	5810	8540	4710						7100	3980	7966
- 2.0m					16490*	16490*	18180*	10650	14850	7550	10800	5820	8560	4740						7790	4350	7490
- 3.0m					20660*	17910	16870*	10820	13920*	7670	10910	5920								9010	5000	6830
- 4.0m					18040*	18040*	14840*	11100	12250*	7890										10020*	6250	5924
- 5.0m																						

LIFT CAPACITIES – Dipper length: 3.1m, Monoboom: 6.2m, Trackplates: 600mm, No bucket.

JS290 NLC

Load Point	Reach from swing centre																				Max.		
	1.0m		2.0m		3.0m		4.0m		5.0m		6.0m		7.0m		8.0m		9.0m						
Reach																							
Ht.	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm	
7.0m														6930*	5880						5330*	5010	7633
6.0m												7280*	7280*	7110*	5800	6390*	4570				5240*	4350	8210
5.0m									8770*	8770*	8010*	7250	7530*	5650	7260*	4510					5240*	3920	8629
4.0m							12740*	12740*	10300*	9160	8940*	6930	8110*	5460	7550	4390					5330	3630	8914
3.0m							15710*	11840	11960*	8600	9970*	6600	8780*	5240	7400	4260	6120	3500			5510*	3450	9077
2.0m							13430*	11030	13450*	8110	10950*	6280	8920	5040	7250	4130	6040	3430			5770*	3350	9126
1.0m							12110*	10620	14540*	7760	11060	6030	8720	4860	7120	4010	5970	3360			5900	3330	9061
0m							13860*	10460	14600	7550	10850	5860	8570	4730	7030	3920					6030	3380	8882
- 1.0m			7270*	7270*	10330*	10330*	17120*	10420	14480	7450	10740	5760	8480	4660	6980	3880					6320	3530	8579
- 2.0m			11200*	11200*	14430*	14430*	18900*	10480	14470	7450	10710	5740	8460	4640	6980	3880					6820	3800	8140
- 3.0m			15210*	15210*	19240*	17510*	17890*	10610	14510*	7520	10760	5780	8520	4690							7670	4270	7540
- 4.0m			19930*	19930*	20440*	17850	16290*	10830	13310*	7670	10920	5920									9190	5090	6733
- 5.0m					17030*	17030*	13740*	11180	11130*	7960											9550*	6750	5628



- Notes:**
1. The above loads are in compliance with SAE and ISO Hydraulic Excavator Lift Capacity Standards.
  2. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
  3. Rated loads marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load.



LIFT CAPACITIES – Dipper length: 3.7m, Monoboam: 6.2m, Trackplates: 600mm, No bucket.

JS290 NLC

Load Point	Reach from swing centre																						
	1.0m		2.0m		3.0m		4.0m		5.0m		6.0m		7.0m		8.0m		9.0m		Max.				
Reach																							
Ht.	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm	
8.0m														6050*	6010					4110*	4110*	7718	
7.0m														6080*	6000	5440*	4680			3930*	3930*	8412	
6.0m														6330*	5900	6350*	4650			3840*	3740	8937	
5.0m																							
4.0m									9090*	9090*	8070*	7060	7120*	7120*	6800*	5730	6600*	4550	5330*	3660	3820*	3400	9322
3.0m							13780*	12320	10800*	8800	9150*	6690	8130*	5280	7420	4260	6120	3490	6230	3590	3850*	3170	9586
2.0m							16430*	11350	12430*	8240	10220*	6340	8850*	5050	7250	4110	6020	3390	4090*	4090*	2940	9783	
1.0m							13940*	10720	13750*	7800	11080	6040	8710	4840	7090	3970	5910	3300	4300*	4300*	2910	9723	
0m					6770*	6770*	13840*	10380	14580	7510	10820	5810	8520	4680	6960	3850	5840	3230	4600*	4600*	2950	9556	
- 1.0m			6400*	6400*	9310*	9310*	15710*	10250	14380	7340	10650	5670	8400	4560	6880	3780	5790	3190	5010*	5010*	3060	9277	
- 2.0m	8140*	8140*	9270*	9270*	12320*	12320*	18880*	10230	14300	7280	10570	5600	8340	4510	6840	3750					5620*	3260	8873
- 3.0m	10790*	10790*	12380*	12380*	15940*	1590*	18510*	10310	14330	7310	10580	5610	8340	4520	6880	3780					6520	3590	8327
- 4.0m			16010*	1610*	20560*	17300	17290*	10480	13960*	7410	10670	5690	8440	4600							7510	4150	7607
- 5.0m			20610*	20610*	19480*	17750	15340*	10760	*12440	7620	10120*	5870									8620*	5140	6654
- 6.0m							12130*	11210	9540*	8000											8620*	7310	5341

LIFT CAPACITIES – Dipper length: 2.5m, Monoboam: 6.2m, Trackplates: 600mm, No bucket.

JS290 LC

Load Point	Reach from swing centre																																		
	1.0m		2.0m		3.0m		4.0m		5.0m		6.0m		7.0m		8.0m		9.0m		Max.																
Reach																																			
Ht.	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	kg	mm													
8.0m														7920*	7920*						7940*	7940*	6067												
7.0m														7760*	7760*						7840*	6370	6934												
6.0m														8130*	8050	7860*	6230				7850*	5440	7565												
5.0m																																			
4.0m									11710*	11710*	9860*	9860*	8810*	7790	8200*	6100	7620	4870			7580	4850	8019												
3.0m																					7040	4470	8326												
2.0m																					6710	4240	8501												
1.0m																					12980*	9280	10670	7150	9110	5710	7390	4670	6560	4120	8553				
0m																					14280*	8840	11280	6870	8900	5530	7270	4550	6570	4100	8484				
- 1.0m																					14790	8570	11040	6660	8730	5380	7160	4460	6750	4190	8291				
- 2.0m																					18080*	11920	14590	8400	10830	6470	8540	5240			7130	4420	7966		
- 3.0m																					16490*	16490*	18180	12020	14650	8450	10850	6490	8600	5260			7820	4830	7490
- 4.0m																					20660*	20610	16870*	12200	13920*	8570	10960	6590			9050	5550	6830		
- 5.0m																					18040*	18040*	14840*	12490	12250*	8800	10260*	6640			10020*	6940	5924		





## STANDARD EQUIPMENT

Isuzu 6HK1X, 6-cylinder, common-rail, turbocharged, intercooled, direct-injection, EU Stage III A and EPA Tier 3 compliant engine
Dual element type air cleaner with in-cab blocked filter warning
Automatic fuel system de-airation
Automatic engine warm up
Engine overheat warning / prevention system
Automatic engine deceleration / idle system
AMS machine monitoring system
4 selectable work modes – Auto, Economy, Lifting and Precision
Remote engine oil level check
Plexus hydraulic oil filtration system
Servo oil filtration
Dual fuel pre-filters with additional engine filter and water separator
3-speed travel
Auto operator cab – pressurised, tinted safety glass with sun visor, opening front window with integrated lower glass storage, operator storage shelf with cargo net, ashtray with cigarette / phone charger socket, mobile phone holder, radio mute switch
High-back suspension operator seat
Overload caution warning system
Horn
Upper and lower guarding
Lockable service doors and engine cover
Frame-mounted toolbox
Remote slew-bearing grease points
Electric refuelling pump with auto-stop
Upper-frame-mounted handrails and non-slip walkways
Boom- and mainframe-mounted worklights
Toolkit
Quick-connect engine oil drain
Remote-mounted easy-access engine and hydraulic oil filters
Cushion control
Operator manual

## OPTIONAL EQUIPMENT

NLC and LC undercarriages
600mm, 700mm, 800mm, 900mm track plate width options
2.5m, 3.1m and 3.7m dipper length options
Auxiliary pipework options (high and low flow)
Hose-burst check valves
Tipping-link-mounted lifting points
FOPS level 2 operator protection system
Mesh screen guard
Additional worklights
ISO 32 or ISO 68 hydraulic oil
Biodegradable hydraulic oil
Lower screen wiper
Rain visor (not compatible with FOPS protection or mesh screen guard)
Climate control
Heated and air-suspension high-backed operator seat
Radio
Fire extinguisher
Widcore radiator
Visibowl or Turbo 2 pre-cleaner
P3 or carbon cab air intake filter
Travel alarm
Quickhitch operation pipework
Range of JCB buckets and attachments

## STANDARD EQUIPMENT FOR XTRA DUTY BUILDS

Cab cage (FOPS level II)
Visibowl pre-cleaner
Reinforced dipper
Reinforced bucket links
Impact buffer around upper structure
Heavy duty 10mm underguards and trackmotor covers
Reinforced front light protection