HITACHI

ZAXIS 650LC-3

- **Engine Rated Power:** 463 SAE net hp (345 kW) @ 1,800 rpm
- **Operating Weight:** 152,192 lb. (69 033 kg)
- **Backhoe Bucket:** 4.04 yd^3 (3.09 m^3), 54 in. (1370 mm)

Engine

Type	Isuzu AH-6WG1XYSA-02 with turbocharger and air-to-air charge air cooler; certified to EPA Tier-3 emissions
Net Peak Power (ISO9249)	463 SAE net hp (345 kW) @ 1,800 rpm
Cylinders	6
Displacement	957 cu. in. (15.681 L)
Maximum Net Torque	1,459 lb.-ft. (1980 Nm) @ 1,500 rpm
Cooling Fan	suction-type, hydraulic-driven, remote-mounted drive
Electrical System	24 volt with 50-amp alternator
Batteries (two 12 volt)	reserve capacity: 280 min.
Off-level capacity	70% (35 deg.)

Hydraulic System

Main Pumps	two variable-displacement axial-piston
Maximum Flow	2 x 120 gpm (2 x 456 L/min.)
Pilot Pump	one gear
Maximum Flow	7.9 gpm (30 L/min.)
Pressure Setting	566 psi (3900 kPa)
System Operating Pressure	
Implement Circuits	4,627 psi (31 900 kPa)
Travel Circuits	4,975 psi (34 300 kPa)
Swing Circuits	4,264 psi (29 400 kPa)
Power Boost	4,975 psi (34 300 kPa)
Oil Filtration	one 10-micron full-flow return filter with by-pass / one pilot oil filter

Cylinders

	Bore	Rod Diameter	Stroke
Boom (2)	7.5 in. (190 mm)	5.1 in. (130 mm)	71 in. (1805 mm)
Arm (1)	7.9 in. (200 mm)	5.5 in. (140 mm)	85 in. (2165 mm)
Bucket (1)	7.1 in. (180 mm)	5.1 in. (130 mm)	61 in. (1555 mm)

Swing Mechanism

Swing Speed	0–9.5 rpm
Swing Torque	142,839 lb.-ft. (193 804 Nm)

Undercarriage

Carrier Rollers (per side)	3
Track Rollers (per side)	8
Shoes, Double-Bar Grouser (per side)	47
Track Guides	front and center
Track Adjustment	hydraulic
Travel Speed	
Low	0–2.0 mph (0–3.4 km/h)
High	0–3.0 mph (0–4.9 km/h)
Drawbar Pull	101,666 lb. (46 115 kg)

Ground Pressure Data

Average Ground Pressure	
26-in. (650 mm) Double-Bar Grouser Shoes	13.6 psi (93.8 kPa)
30-in. (750 mm) Double-Bar Grouser Shoes	12.0 psi (82.4 kPa)
36-in. (900 mm) Double-Bar Grouser Shoes	10.1 psi (69.6 kPa)

SAE Operating Weights

With Full Fuel Tank; 175-lb. (79 kg) Operator; 4.04-cu.-yd. (3.09 m^3), 54-in. (1370 mm), 6,892-lb. (3126 kg) Bucket; 13-ft. 9-in. (4.2 m) Arm; 24,471-lb. (11 100 kg) Counterweight; and 36-in. (900 mm) Double-Bar Grouser Shoes	152,192 lb. (69 033 kg)

Capacities (U.S.)

Fuel Tank	238 gal. (900 L)
Cooling System	14.7 gal. (55.8 L)
Engine Lubrication, Including Filter	13.6 gal. (51.6 L)
Hydraulic Tank	102.5 gal. (388 L)
Hydraulic System	190.2 gal. (720 L)
Propel Gearbox (each)	14 qt. (13.2 L)
Swing Gearbox (each)	19 qt. (18 L)

Component Weights

Undercarriage

26-in. (650 mm) Double-Bar Grouser Shoes	58,687 lb. (26 620 kg)
30-in. (750 mm) Double-Bar Grouser Shoes	60,054 lb. (27 240 kg)
36-in. (900 mm) Double-Bar Grouser Shoes	62,126 lb. (28 180 kg)
25-ft. 7-in. (7.8 m) One-Piece Boom (with arm cylinder)	14,440 lb. (6550 kg)
22-ft. 4-in. (6.8 m) One-Piece Mass-Excavating Boom (with arm cylinder)	13,470 lb. (6110 kg)

Arm with Bucket Cylinder and Linkage

11 ft. 10 in. (3.6 m)	7,981 lb. (3620 kg)
13 ft. 9 in. (4.2 m)	8,664 lb. (3930 kg)
17 ft. 5 in. (5.3 m)	7,981 lb. (3620 kg)
9-ft. 6-in. (2.9 m) Mass-Excavating Arm	8,422 lb. (3820 kg)
Boom Lift Cylinders (2) Total Weight	2,447 lb. (1110 kg)
4.04-cu.-yd. (3.09 m^3), 54-in. (1370 mm) Heavy-Duty High-Capacity Bucket	6,892 lb. (3126 kg)
Counterweight, Standard	24,471 lb. (11 100 kg)

Lifting Capacities

Boldface italic type indicates hydraulic-limited capacities; lightface type indicates stability-limited capacities, in lb. (kg). Ratings at bucket lift hook; machine equipped with 24,471-lb. (11 100 kg) counterweight; standard gauge; and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine. All lift capacities are based on SAE J1097. Lift capacities for the most popular shoe and arm configurations are included. Lift capacities for other configurations are available from your dealer.

Load Point	15 ft. (4.57 m)		20 ft. (6.10 m)		25 ft. (7.62 m)		30 ft. (9.15 m)		35 ft. (10.7 m)	
Height	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side
With 25-ft. 7-in. (7.8 m) boom, 13-ft. 9-in. (4.2 m) arm, 3.3-cu.-yd. (2.5 m³) bucket, and 26-in. (650 mm) double-bar grouser shoes										
25 ft. (7.6 m)									***12,460 (5652)***	***12,460 (5652)***
20 ft. (6.1 m)							***23,383 (10 606)***	***23,383 (10 606)***	***19,159 (8690)***	19,039 (8636)
15 ft. (4.6 m)					***29,198 (13 244)***	***29,198 (13 244)***	***25,690 (11 653)***	24,756 (11 229)	***23,448 (10 636)***	18,487 (8386)
10 ft. (3.0 m)			***43,668 (19 807)***	43,668 (19 807)	***33,898 (15 376)***	31,984 (14 508)	***28,456 (12 907)***	23,526 (10 671)	***25,108 (11 389)***	17,775 (8063)
5 ft. (1.5 m)			***50,840 (23 061)***	41,259 (18 715)	***38,255 (17 352)***	30,019 (13 616)	***31,150 (14 129)***	22,300 (10 129)	25,190 (11 426)	17,047 (7732)
Ground Line			***54,883 (24 895)***	39,720 (18 017)	***41,395 (18 776)***	28,537 (12 944)	31,626 (14 345)	21,345 (9682)	24,529 (11 126)	16,425 (7450)
–5 ft. (–1.5 m)	***34,729 (15 753)***	***34,729 (15 753)***	***55,907 (25 359)***	39,166 (17 765)	41,470 (18 810)	27,633 (12 534)	30,907 (14 019)	20,677 (9379)	24,080 (10 923)	16,002 (7258)
–10 ft. (–3.0 m)	***53,233 (24 146)***	***53,233 (24 146)***	***54,498 (24 720)***	39,207 (17 784)	41,057 (18 623)	27,256 (12 363)	30,577 (13 869)	20,370 (9240)	23,935 (10 857)	15,865 (7196)
–15 ft. (–4.6 m)	***65,117 (29 537)***	65,073 (29 517)	***50,714 (23 003)***	39,731 (18 022)	***40,096 (18 187)***	27,356 (12 408)	30,684 (13 918)	20,469 (9285)		
–20 ft. (–6.1 m)	***55,231 (25 052)***	***55,231 (25 052)***	***43,833 (19 882)***	***39,629 (17 975)***	***34,568 (15 680)***	27,983 (12 693)				
–25 ft. (–7.6 m)			***31,420 (14 252)***	***31,420 (14 252)***						
With 22-ft. 4-in. (6.8 m) ME boom, 9-ft. 6-in. (2.9 m) arm, 4.6-cu.-yd. (3.5 m³) bucket, and 26-in. (650 mm) double-bar grouser shoes										
25 ft. (7.6 m)					***28,727 (13 030)***	***28,727 (13 030)***				
20 ft. (6.1 m)					***30,214 (13 705)***	***30,214 (13 705)***	***20,187 (9157)***	***20,187 (9157)***		
15 ft. (4.6 m)			***39,851 (18 076)***	***39,851 (18 076)***	***33,320 (15 114)***	32,448 (14 718)	***29,913 (13 568)***	23,127 (10 490)		
10 ft. (3.0 m)			***47,728 (21 649)***	44,470 (20 171)	***37,297 (16 918)***	30,760 (13 953)	***31,735 (14 395)***	22,287 (10 109)		
5 ft. (1.5 m)			***53,856 (24 429)***	41,786 (18 954)	***40,867 (18 537)***	29,228 (13 258)	31,776 (14 413)	21,442 (9726)		
Ground Line			***56,365 (25 567)***	40,339 (18 297)	42,113 (19 102)	28,164 (12 775)	31,099 (14 106)	20,812 (9440)		
–5 ft. (–1.5 m)			***55,421 (25 139)***	39,859 (18 080)	41,586 (18 863)	27,666 (12 549)	30,831 (13 985)	20,564 (9328)		
–10 ft. (–3.0 m)	***65,170 (29 561)***	***65,170 (29 561)***	***51,150 (23 201)***	40,075 (18 178)	***39,681 (17 999)***	27,763 (12 593)				
–15 ft. (–4.6 m)	***53,186 (24 125)***	***53,186 (24 125)***	***42,172 (19 129)***	41,020 (18 606)	***30,075 (13 642)***	28,785 (13 057)				
With 25-ft. 7-in. (7.8 m) boom, 13-ft. 9-in. (4.2 m) arm, 3.3-cu.-yd. (2.5 m³) bucket, and 30-in. (750 mm) double-bar grouser shoes										
25 ft. (7.6 m)									***12,460 (5652)***	***12,460 (5652)***
20 ft. (6.1 m)							***23,383 (10 606)***	***23,383 (10 606)***	***19,159 (8690)***	***19,159 (8690)***
15 ft. (4.6 m)					***29,198 (13 244)***	***29,198 (13 244)***	***25,690 (11 653)***	25,000 (11 340)	***23,448 (10 636)***	18,689 (8477)
10 ft. (3.0 m)			***43,668 (19 807)***	***43,668 (19 807)***	***33,898 (15 376)***	32,292 (14 647)	***28,456 (12 907)***	23,771 (10 782)	***25,108 (11 389)***	17,977 (8154)
5 ft. (1.5 m)			***50,840 (23 061)***	42,747 (19 390)	***38,255 (17 352)***	30,327 (13 756)	***31,150 (14 129)***	22,574 (10 239)	25,474 (11 555)	17,250 (7824)
Ground Line			***54,883 (24 895)***	40,664 (18 445)	***41,395 (18 776)***	28,845 (13 084)	31,973 (14 503)	21,589 (9793)	24,813 (11 255)	16,628 (7542)
–5 ft. (–1.5 m)	***34,729 (15 753)***	***34,729 (15 753)***	***55,907 (25 359)***	39,699 (18 007)	41,916 (19 013)	27,941 (12 674)	31,254 (14 177)	20,921 (9490)	24,364 (11 051)	16,205 (7350)
–10 ft. (–3.0 m)	***53,233 (24 146)***	***53,233 (24 146)***	***54,498 (24 720)***	39,465 (17 901)	41,503 (18 825)	27,564 (12 503)	30,923 (14 026)	20,614 (9350)	24,218 (10 985)	16,068 (7288)
–15 ft. (–4.6 m)	***65,117 (29 537)***	***65,117 (29 537)***	***50,714 (23 003)***	39,772 (18 040)	***40,096 (18 187)***	27,664 (12 548)	31,031 (14 075)	20,714 (9396)		
–20 ft. (–6.1 m)	***55,231 (25 052)***	***55,231 (25 052)***	***43,833 (19 882)***	40,622 (18 426)	***34,568 (15 680)***	28,291 (12 833)				
–25 ft. (–7.6 m)			***31,420 (14 252)***	***31,420 (14 252)***						
With 25-ft. 7-in. (7.8 m) boom, 11-ft. 10-in. (3.6 m) arm, 3.79-cu.-yd. (2.9 m³) bucket, and 36-in. (900 mm) double-bar grouser shoes										
25 ft. (7.6 m)							***22,680 (10 287)***	***22,680 (10 287)***		
20 ft. (6.1 m)							***25,137 (11 402)***	***25,137 (11 402)***	***16,118 (7311)***	***16,118 (7311)***
15 ft. (4.6 m)			***38,720 (17 563)***	***38,720 (17 563)***	***31,383 (14 235)***	***31,383 (14 235)***	***27,263 (12 366)***	24,783 (11 241)	***23,789 (10 791)***	18,535 (8407)
10 ft. (3.0 m)			***47,021 (21 328)***	45,286 (20 541)	***35,854 (16 263)***	31,962 (14 498)	***29,815 (13 524)***	23,631 (10 719)	***26,185 (11 877)***	17,911 (8124)
5 ft. (1.5 m)			***53,211 (24 136)***	42,304 (19 189)	***39,766 (18 038)***	30,173 (13 686)	***32,211 (14 611)***	22,543 (10 225)	25,591 (11 608)	17,274 (7835)
Ground Line			***55,813 (25 316)***	40,764 (18 490)	***42,273 (19 175)***	28,919 (13 117)	32,194 (14 603)	21,691 (9839)	25,041 (11 358)	16,756 (7600)
–5 ft. (–1.5 m)	***34,921 (15 840)***	***34,921 (15 840)***	***55,541 (25 193)***	40,211 (18 239)	42,388 (19 227)	28,240 (12 809)	31,632 (14 348)	21,169 (9602)	24,728 (11 216)	16,462 (7467)
–10 ft. (–3.0 m)	***59,691 (27 075)***	***59,691 (27 075)***	***53,044 (24 060)***	40,251 (18 258)	***41,872 (18 993)***	28,064 (12 730)	31,473 (14 276)	21,021 (9535)		
–15 ft. (–4.6 m)	***60,038 (27 233)***	***60,038 (27 233)***	***48,138 (21 835)***	40,775 (18 495)	***38,371 (17 405)***	28,363 (12 865)	***30,060 (13 635)***	21,341 (9680)		
–20 ft. (–6.1 m)	***48,720 (22 099)***	***48,720 (22 099)***	***39,629 (17 975)***	***39,629 (17 975)***	***30,838 (13 988)***	29,289 (13 285)				
With 25-ft. 7-in. (7.8 m) boom, 13-ft. 9-in. (4.2 m) arm, 3.27-cu.-yd. (2.5 m³) bucket, and 36-in. (900 mm) double-bar grouser shoes										
25 ft. (7.6 m)									***12,460 (5652)***	***12,460 (5652)***
20 ft. (6.1 m)							***23,383 (10 606)***	***23,383 (10 606)***	***19,159 (8690)***	***19,159 (8690)***
15 ft. (4.6 m)					***29,198 (13 244)***	***29,198 (13 244)***	***25,690 (11 653)***	25,386 (11 515)	***23,448 (10 636)***	18,994 (8616)
10 ft. (3.0 m)			***43,668 (19 807)***	***43,668 (19 807)***	***33,898 (15 376)***	32,756 (14 858)	***28,456 (12 907)***	24,139 (10 949)	***25,108 (11 389)***	18,282 (8293)
5 ft. (1.5 m)			***50,840 (23 061)***	43,375 (19 675)	***38,255 (17 352)***	30,791 (13 967)	***31,150 (14 129)***	22,942 (10 406)	25,891 (11 744)	17,555 (7963)
Ground Line			***54,883 (24 895)***	41,292 (18 730)	***41,395 (18 776)***	29,309 (13 294)	32,483 (14 734)	21,958 (9960)	25,230 (11 444)	16,933 (7681)
–5 ft. (–1.5 m)	***34,729 (15 753)***	***34,729 (15 753)***	***55,907 (25 359)***	40,327 (18 292)	42,572 (19 310)	28,405 (12 884)	31,764 (14 408)	21,290 (9657)	24,781 (11 240)	16,510 (7489)
–10 ft. (–3.0 m)	***53,233 (24 146)***	***53,233 (24 146)***	***54,498 (24 720)***	40,093 (18 186)	42,159 (19 123)	28,028 (12 713)	31,433 (14 258)	20,982 (9517)	24,636 (11 175)	16,373 (7427)
–15 ft. (–4.6 m)	***65,117 (29 537)***	***65,117 (29 537)***	***50,714 (23 003)***	40,400 (18 325)	***40,096 (18 187)***	28,128 (12 759)	31,541 (14 307)	21,082 (9563)		
–20 ft. (–6.1 m)	***55,231 (25 052)***	***55,231 (25 052)***	***43,833 (19 882)***	41,250 (18 711)	***34,568 (15 680)***	28,756 (13 044)				
–25 ft. (–7.6 m)			***31,420 (14 252)***	***31,420 (14 252)***						

Lifting Capacities

Boldface italic type indicates hydraulic-limited capacities; lightface type indicates stability-limited capacities, in lb. (kg). Ratings at bucket lift hook; machine equipped with 24,471-lb. (11 100 kg) counterweight; standard gauge; and situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine. All lift capacities are based on SAE J1097. Lift capacities for the most popular shoe and arm configurations are included. Lift capacities for other configurations are available from your dealer.

Load Point	15 ft. (4.57 m)		20 ft. (6.10 m)		25 ft. (7.62 m)		30 ft. (9.15 m)		35 ft. (10.7 m)	
Height	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side
With 25-ft. 7-in. (7.8 m) boom, 17-ft. 5-in. (5.3 m) arm, 2.6-cu.-yd. (2.0 m³) bucket, and 36-in. (900 mm) double-bar grouser shoes										
30 ft. (9.1 m)									***10,700 (4853)***	***10,700 (4853)***
25 ft. (7.6 m)									***14,200 (6441)***	***14,200 (6441)***
20 ft. (6.1 m)									***16,300 (7394)***	***16,300 (7394)***
15 ft. (4.6 m)							***20,700 (9389)***	***20,700 (9389)***	***18,800 (8528)***	***18,800 (8528)***
10 ft. (3.0 m)			***37,100 (16 828)***	***37,100 (16 828)***	***29,600 (13 426)***	***29,600 (13 426)***	***25,300 (11 476)***	24,500 (11 113)	***22,500 (10 206)***	18,500 (8391)
5 ft. (1.5 m)			***45,100 (20 457)***	44,300 (20 094)	***34,400 (15 604)***	31,200 (14 152)	***28,300 (12 837)***	23,100 (10 478)	***24,400 (11 068)***	17,500 (7938)
Ground Line	***29,500 (13 381)***	***29,500 (13 381)***	***50,800 (23 042)***	41,200 (18 688)	***38,300 (17 373)***	29,200 (13 245)	***30,900 (14 016)***	21,800 (9888)	25,000 (11 340)	16,700 (7575)
–5 ft. (–1.5 m)	***35,200 (15 966)***	***35,200 (15 966)***	***53,700 (24 358)***	39,400 (17 872)	***40,800 (18 507)***	27,800 (12 610)	31,300 (14 197)	20,800 (9435)	24,300 (11 022)	16,000 (7257)
–10 ft. (–3.0 m)	***46,200 (20 956)***	***46,200 (20 956)***	***54,100 (24 539)***	38,600 (17 509)	41,200 (18 688)	27,100 (12 292)	30,700 (13 925)	20,200 (9163)	23,900 (10 841)	15,700 (7121)
–15 ft. (–4.6 m)	***62,300 (28 259)***	***62,300 (28 259)***	***52,200 (23 678)***	38,600 (17 509)	***40,700 (18 461)***	26,900 (12 202)	30,500 (13 835)	20,100 (9117)	23,900 (10 841)	15,600 (7076)
–20 ft. (–6.1 m)	***62,100 (28 168)***	***62,100 (28 168)***	***47,600 (21 591)***	39,200 (17 781)	***37,400 (16 964)***	27,200 (12 338)	***29,500 (13 381)***	20,400 (9253)		
–25 ft. (–7.6 m)	***50,400 (22 861)***	***50,400 (22 861)***	***39,200 (17 781)***	***39,200 (17 781)***	***30,300 (13 744)***	28,200 (12 791)				
With 22-ft. 4-in. (6.8 m) ME boom, 9-ft. 6-in. (2.9 m) arm, 4.58-cu.-yd. (3.5 m³) bucket, and 36-in. (900 mm) double-bar grouser shoes										
25 ft. (7.6 m)					***28,727 (13 030)***	***28,727 (13 030)***				
20 ft. (6.1 m)					***30,214 (13 705)***	***30,214 (13 705)***	***20,187 (9157)***	***20,187 (9157)***		
15 ft. (4.6 m)			***39,851 (18 076)***	***39,851 (18 076)***	***33,320 (15 114)***	33,221 (15 069)	***29,913 (13 568)***	23,740 (10 768)		
10 ft. (3.0 m)			***47,728 (21 649)***	45,515 (20 645)	***37,297 (16 918)***	31,532 (14 303)	***29,913 (13 568)***	22,899 (10 387)		
5 ft. (1.5 m)			***53,856 (24 429)***	42,831 (19 428)	***40,867 (18 537)***	30,000 (13 608)	32,633 (14 802)	22,054 (10 004)		
Ground Line			***56,365 (25 567)***	41,384 (18 771)	***42,945 (19 480)***	28,936 (13 125)	31,955 (14 495)	21,425 (9718)		
–5 ft. (–1.5 m)			***55,421 (25 139)***	40,904 (18 554)	42,668 (19 354)	28,438 (12 899)	31,688 (14 373)	21,176 (9605)		
–10 ft. (–3.0 m)	***65,170 (29 561)***	***65,170 (29 561)***	***51,150 (23 201)***	41,119 (18 651)	***39,681 (17 999)***	28,535 (12 943)				
–15 ft. (–4.6 m)	***53,186 (24 125)***	***53,186 (24 125)***	***42,172 (19 129)***	42,065 (19 080)	***30,075 (13 642)***	29,558 (13 407				

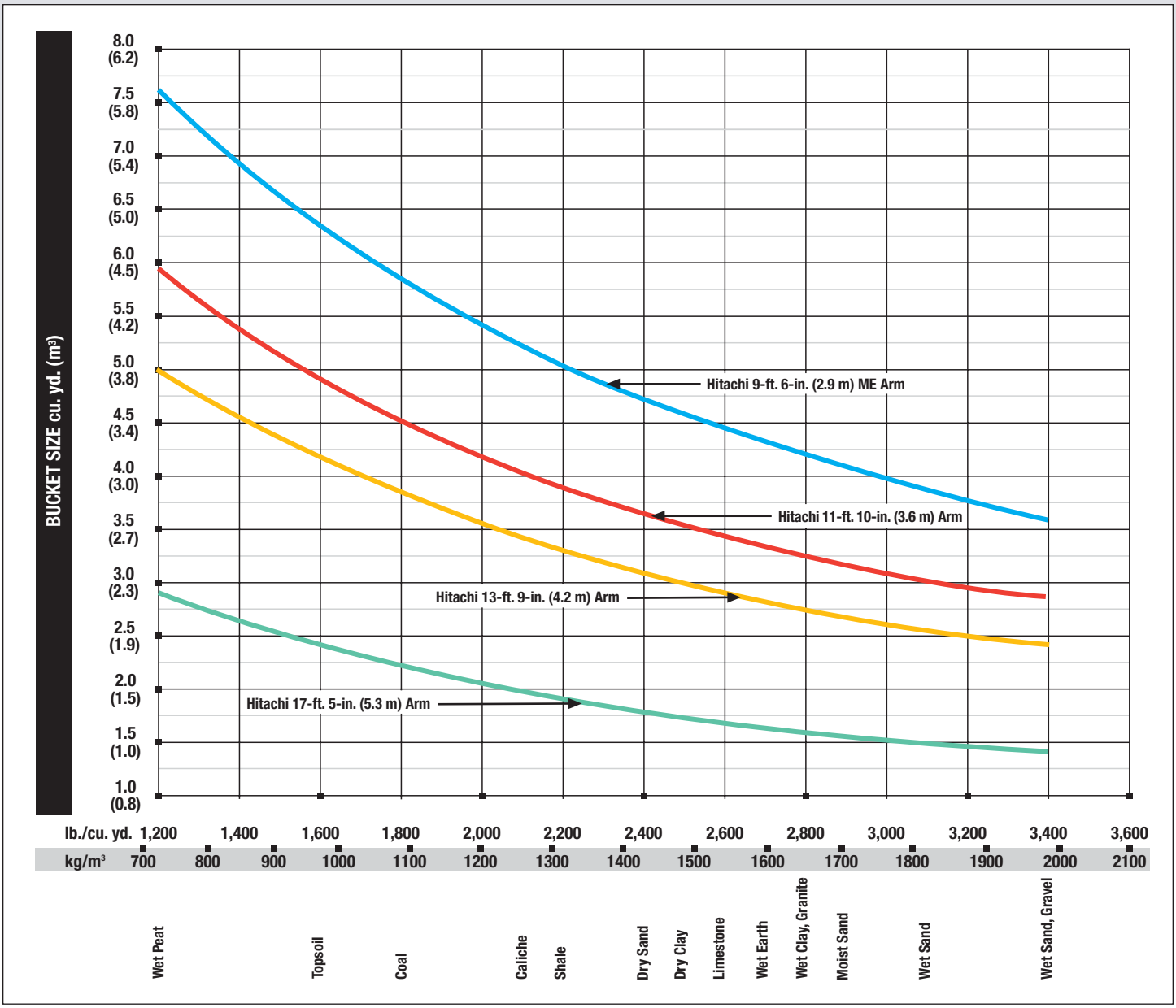
Buckets

A full line of buckets is offered to meet a wide variety of applications. Digging forces are with power boost. The buckets have an adjustable bushing for side clearance, with the exception of the ditching bucket. Tooth selection includes either the John Deere Fanggs®, Standard, Tiger, Twin Tiger, Abrasion panel, or Flare tooth, or the ESCO (Vertalok) Standard, Tiger, Twin Tiger, or Flare tooth. Replaceable cutting edges are available through Hitachi parts. Optional side cutters add 6 inches (150 mm) to bucket widths. Capacities are SAE heaped ratings with side cutters.

Type Bucket	Bucket Width		Bucket Capacity*		Weight		Bucket Dig Force		Arm Dig Force 11 ft. 10 in. (3.6 m)		Arm Dig Force 13 ft. 9 in. (4.2 m)		Arm Dig Force 17 ft. 5 in. (5.3 m)		ME Arm Dig Force 9 ft. 6 in. (2.9 m)		Bucket Tip Radius		No. Teeth
	in.	mm	cu. yd.	m³	lb.	kg	lb.	kN	lb.	kN	lb.	kN	lb.	kN	lb.	kN	in.	mm	
Extreme-Duty	48	1219	3.5	2.65	7,487	3396	65,189	290	55,522	247	50,352	224					89.79	2281	3
Plate Lip	48	1219	3.5	2.68	7,407	3360	65,189	290							66,763	297	89.79	2281	3
	54	1372	4.0	3.06	7,817	3546	65,189	290							66,763	297	89.79	2281	5
	54	1372	4.0	3.06	7,817	3546	65,189	290	55,522	247	50,352	224					89.79	2281	3
	60	1524	4.6	3.53	8,368	3795	65,189	290									89.79	2281	3
Heavy-Duty	36	914	2.4	1.80	5,873	2664	65,189	290	55,522	247	50,352	240					89.79	2281	3
High Capacity	42	1067	2.9	2.22	6,320	2867	65,189	290	55,522	247	50,352	240					89.79	2281	4
	48	1219	2.7	2.06	6,540	2966	65,189	290	55,522	247	50,352	240					89.79	2281	4
	54	1372	4.0	3.09	6,898	3129	65,189	290	55,522	247	50,352	240					89.79	2281	5
	60	1524	4.6	3.54	7,280	3302	65,189	290	55,522	247	50,352	240					89.79	2281	5
	72	1829	5.8	4.44	7,921	3593	65,189	290	55,522	247	50,352	240					89.79	2281	6
	80	2032	6.6	5.05	8,634	3916	65,189	290	55,522	247	50,352	240					89.79	2281	6
High-Capacity Dirt	86	2184	6.0	4.59	8,688	3941	74,630	332									86.23	2190	6
Heavy-Duty	36	914	1.7	1.30	4,964	2252	55,073	245					43,160	192			75.75	1924	3
Plate Lip	42	1067	2.1	1.58	5,719	2594	55,073	245					43,160	192			75.75	1924	4
	48	1219	2.5	1.90	6,000	2722	55,073	245					43,160	192			75.75	1924	4
	54	1372	2.9	2.19	6,302	2858	55,073	245					43,160	192			75.75	1924	5
	60	1524	3.3	2.52	6,750	3062	55,073	245					43,160	192			75.75	1924	5
Truck Loading	76	1930	4.9	3.75	6,709	3043	67,897	302	57,829	257	52,474	233					86.20	2189	6
	82	2083	5.3	4.05	7,257	3292	67,897	302	57,829	257	52,474	233					86.20	2189	7

**All capacities are SAE heaped ratings and with side cutters.*

Bucket Selection Guide*

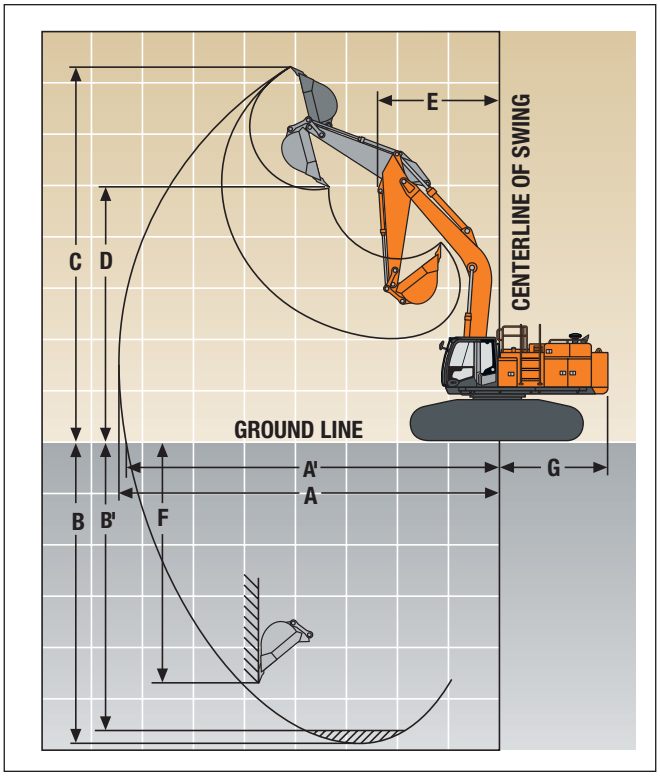


*Contact your Hitachi dealer for optimum bucket and attachment selections. These recommendations are for general conditions and average use. Does not include optional equipment such as thumbs or couplers. Larger buckets may be possible when using light materials, for flat and level operations, less compacted materials, and volume loading applications such as mass excavation applications in ideal conditions. Smaller buckets are recommended for adverse conditions such as off-level applications, rocks, and uneven surfaces. Bucket capacity indicated is SAE heaped.

Operating Information

	25-ft. 7-in. (7.8 m) Boom w/ 11-ft. 10-in. (3.6 m) Arm	25-ft. 7-in. (7.8 m) Boom w/ 13-ft. 9-in. (4.2 m) Arm	25-ft. 7-in. (7.8 m) Boom w/ 17-ft. 5-in. (5.3 m) Arm	22-ft. 4-in. (6.8 m) Mass-Excavating Boom w/9-ft. 6-in. (2.9 m) Arm
Arm Force*	55,525 lb. (247 kN)	50,352 lb. (224 kN)	43,160 lb. (192 kN)	66,763 lb. (297 kN)
Bucket Digging Force*	65,189 lb. (290 kN)	65,189 lb. (290 kN)	55,073 lb. (245 kN)	74,630 lb. (332 kN)
Lifting Capacity Over Front @ Ground Level				
20-ft. (6.1 m) Reach*	55,801 lb. (25 311 kg)	54,902 lb. (24 903 kg)	50,846 lb. (23 063 kg)	56,451 lb. (25 606 kg)
A Maximum Reach	43 ft. 6 in. (13.25 m)	45 ft. 5 in. (13.84 m)	48 ft. 4 in. (14.73 m)	38 ft. 9 in. (11.81 m)
A' Maximum Reach @ Ground Level	42 ft. 8 in. (13.0 m)	44 ft. 8 in. (13.61 m)	47 ft. 7 in. (14.5 m)	37 ft. 9 in. (11.51 m)
B Maximum Digging Depth	28 ft. (8.53 m)	30 ft. (9.14 m)	32 ft. 11 in. (10.03 m)	23 ft. 4 in. (7.11 m)
B' Maximum Digging Depth @ 8-ft. (2.44 m) Flat Bottom	27 ft. 7 in. (8.41 m)	29 ft. 8 in. (9.04 m)	32 ft. 7 in. (9.93 m)	22 ft. 10 in. (6.96 m)
C Maximum Cutting Height	39 ft. 1 in. (11.91 m)	40 ft. 2 in. (12.24 m)	41 ft. 6 in. (12.65 m)	36 ft. 9 in. (11.2 m)
D Maximum Dumping Height	26 ft. 5 in. (8.05 m)	27 ft. 4 in. (8.33 m)	30 ft. 1 in. (9.17 m)	24 ft. 1 in. (7.34 m)
E Minimum Swing Radius	19 ft. (5.79 m)	18 ft. 11 in. (5.77 m)	18 ft. 4 in. (5.59 m)	17 ft. 2 in. (5.23 m)
F Maximum Vertical Wall	24 ft. 3 in. (7.39 m)	26 ft. 10 in. (8.18 m)	31 ft. 3 in. (9.53 m)	17 ft. 4 in. (5.28 m)
G Tail Swing Radius	12 ft. 8 in. (3.86 m)	12 ft. 8 in. (3.86 m)	12 ft. 8 in. (3.86 m)	12 ft. 8 in. (3.86 m)

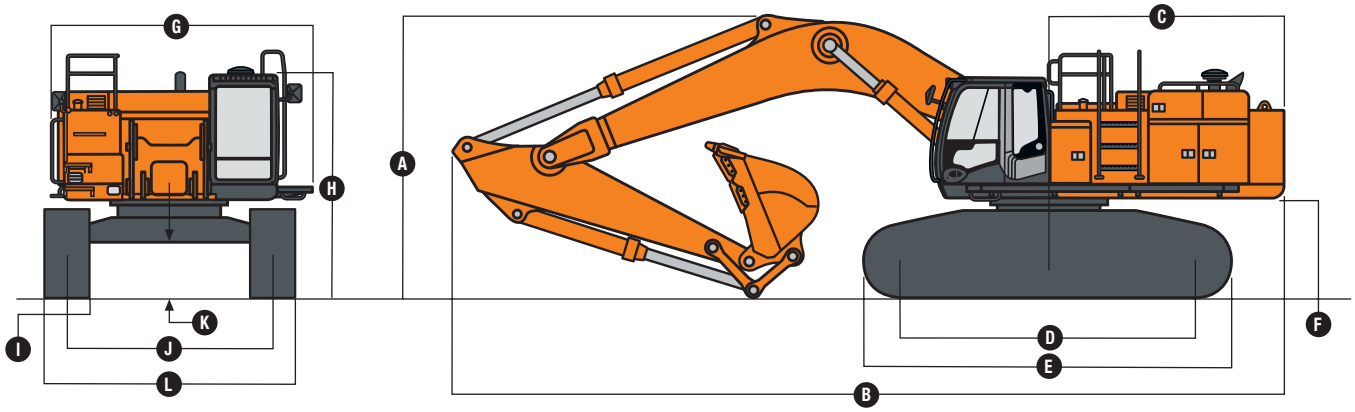
**Digging forces and lift capacities with power boost.*



Dimensions

		Arm Length 11-ft. 10-in. (3.6 m)	*Arm Length 13-ft. 9-in. (4.2 m)*	*Arm Length 17-ft. 5-in. (5.3 m)*	*Arm Length 22-ft. 4-in. (6.8 m) Mass-Excavating Boom w/9-ft. 6-in. (2.9 m) Arm*
A	Overall Height	14 ft. 8 in. (4.47 m)	16 ft. 4 in. (4.98 m)	17 ft. 4 in. (5.28 m)	16 ft. 3 in. (4.95 m)
B	Overall Length	43 ft. 4 in. (13.21 m)	43 ft. 4 in. (13.21 m)	42 ft. 10 in. (13.06 m)	40 ft. 3 in. (12.27 m)
C	Rear-End Length/Swing Radius	12 ft. 2 in. (3.71 m)	12 ft. 2 in. (3.71 m)	12 ft. 2 in. (3.71 m)	12 ft. 2 in. (3.71 m)
D	Distance Between Idler/Sprocket Centerline	15 ft. 1 in. (4.60 m)	15 ft. 1 in. (4.60 m)	15 ft. 1 in. (4.60 m)	15 ft. 1 in. (4.60 m)
E	Undercarriage Length	19 ft. 2 in. (5.84 m)	19 ft. 2 in. (5.84 m)	19 ft. 2 in. (5.84 m)	19 ft. 2 in. (5.84 m)
F	Counterweight Clearance	5 ft. (1.52 m)	5 ft. (1.52 m)	5 ft. (1.52 m)	5 ft. (1.52 m)
G	Upperstructure Width	13 ft. 5 in. (4.09 m)	13 ft. 5 in. (4.09 m)	13 ft. 5 in. (4.09 m)	13 ft. 5 in. (4.09 m)
H	Cab Height	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)
I	Track Width (double-bar grouser shoes)	26 in. (650 mm) / 30 in. (750 mm) / 36 in. (900 mm)	26 in. (650 mm) / 30 in. (750 mm) / 36 in. (900 mm)	26 in. (650 mm) / 30 in. (750 mm) / 36 in. (900 mm)	26 in. (650 mm) / 30 in. (750 mm) / 36 in. (0.91 m)
J	36-in. (900 mm) Double-Bar Grouser Shoes				
	Operating Position	10 ft. 10 in. (3.30 m)	10 ft. 10 in. (3.30 m)	10 ft. 10 in. (3.30 m)	10 ft. 10 in. (3.30 m)
	Transport Position	9 ft. 3 in. (2.82 m)	9 ft. 3 in. (2.82 m)	9 ft. 3 in. (2.82 m)	9 ft. 3 in. (2.82 m)
K	Ground Clearance	34 in. (860 mm)	34 in. (860 mm)	34 in. (860 mm)	34 in. (860 mm)
L	36-in. (900 mm) Double-Bar Grouser Shoes				
	Operating Position	13 ft. 9 in. (4.19 m)	13 ft. 9 in. (4.19 m)	13 ft. 9 in. (4.19 m)	13 ft. 9 in. (4.19 m)
	Transport Position	12 ft. 3 in. (3.73 m)	12 ft. 3 in. (3.73 m)	12 ft. 3 in. (3.73 m)	12 ft. 3 in. (3.73 m)

ZAXIS 650LC-3

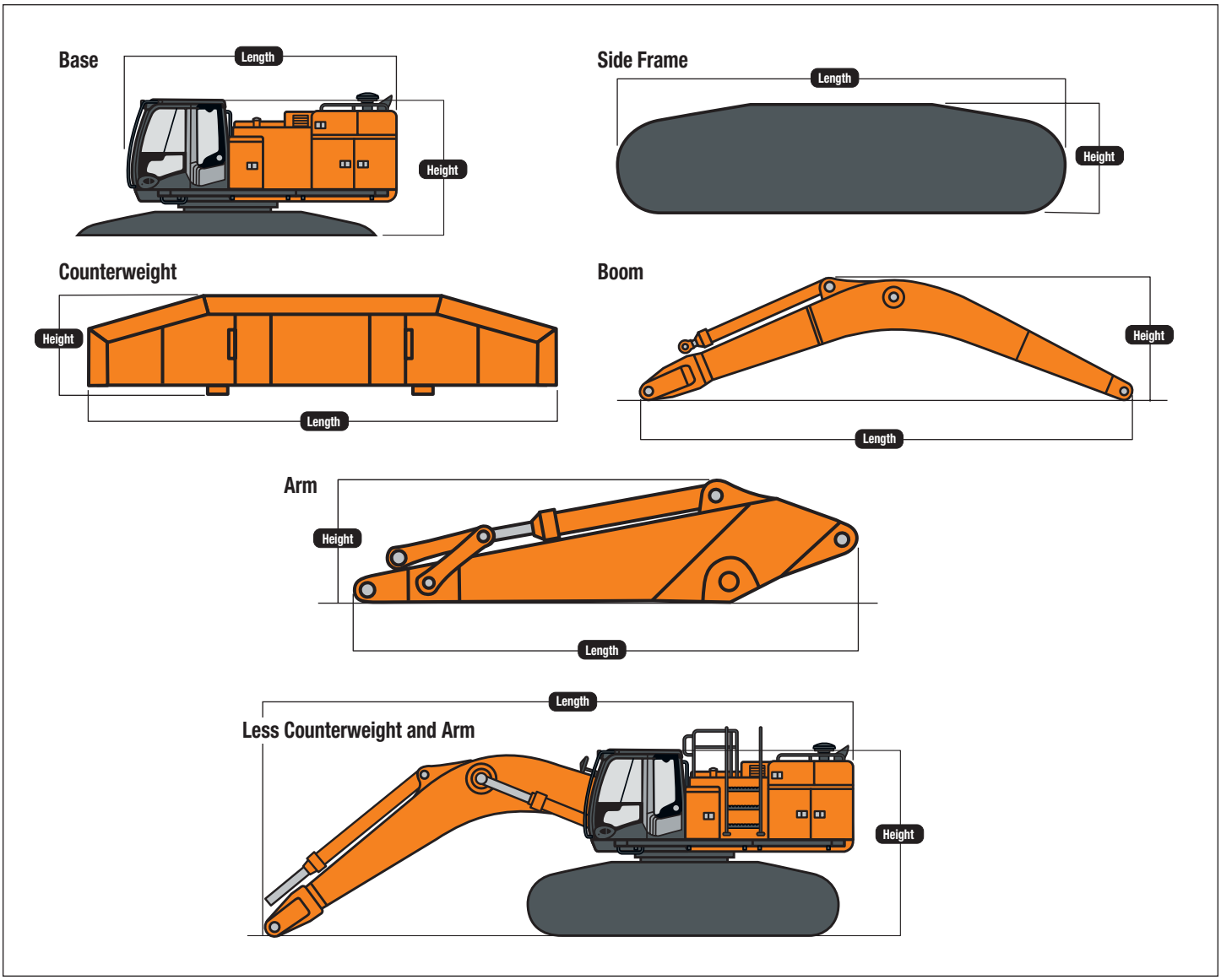


Packing Dimensions and Weights for Transportation

	Length	*Height*	*Overall Width*	*Weight*
Base Machine*	16 ft. 7 in. (5.06 m)	8 ft. 11 in. (2.72 m)	11 ft. 5 in. (3.47 m)	43,900 lb. (19 900 kg)
Side Frame**				
26-in. (650 mm) Shoe Width	19 ft. 2 in. (5.84 m)	4 ft. 9 in. (1.45 m)	3 ft. 1 in. (1.19 m)	22,700 lb. (10 300 kg)
30-in. (750 mm) Shoe Width	19 ft. 2 in. (5.84 m)	4 ft. 9 in. (1.45 m)	4 ft. 1 in. (1.24 m)	23,600 lb. (10 600 kg)
36-in. (900 mm) Shoe Width	19 ft. 2 in. (5.84 m)	4 ft. 9 in. (1.45 m)	4 ft. 6 in. (1.315 m)	24,472 lb. (11 100 kg)
Counterweight	11 ft. (3.36 m)	5 ft. 1 in. (1.55 m)	23 in. (590 mm)	24,471 lb. (11 100 kg)
Boom				
22 ft. 4 in. (6.8 m)	23 ft. 5 in. (7.14 m)	8 ft. 3 in. (2.51 m)	4 ft. 7 in. (1.39 m)	13,500 lb. (6110 kg)
25 ft. 7 in. (7.8 m)	26 ft. 8 in. (8.13 m)	7 ft. 8 in. (2.33 m)	4 ft. 7 in. (1.39 m)	14,450 lb. (6550 kg)
Arm				
9 ft. 6 in. (2.9 m)	14 ft. 4 in. (4.37 m)	5 ft. 7 in. (1.69 m)	31 in. (800 mm)	8,420 lb. (3820 kg)
11 ft. 10 in. (3.6 m)	16 ft. 9 in. (5.11 m)	4 ft. 9 in. (1.44 m)	31 in. (800 mm)	7,980 lb. (3620 kg)
13 ft. 9 in. (4.2 m)	18 ft. 9 in. (5.71 m)	4 ft. 7 in. (1.39 m)	31 in. (800 mm)	8,660 lb. (3930 kg)
17 ft. 1 in. (5.2 m)	22 ft. 1 in. (6.73 m)	4 ft. 2 in. (1.26 m)	31 in. (800 mm)	7,980 lb. (3620 kg)
Less Counterweight and Arm	36 ft. (10.97 m)	11 ft. 4 in. (3.45 m)	11 ft. 5 in. (3.47 m)	112,163 lb. (50 876 kg)

**Without front attachment; side frame; steps on the track frame and the side hydraulic oil tank, handrails on the upper battery box, upper fuel tank, and the side hydraulic oil tank must be removed to comply with the overall width dimensions above.*

***The dimensions and the weights indicate those of one side frame.*



Equipment

Key ● Standard Equipment ▲ Optional or Special Equipment

Engine

- ● Certified to EPA Tier-3 emissions
- ● Auto-idle system
- ● Batteries (two 12 volt), 280-min. reserve capacity
- ● Coolant recovery tank
- ● Dual-element dry-type air filter
- ● Electronic engine control
- ● Enclosed fan guard (conforms to SAE J1308)
- ● Engine coolant to –34°F (–37°C)
- ● Fuel filter with water separator
- ● Full-flow oil filter
- ● Turbocharger with charge air cooler
- ● Muffler, under hood, with vertical curved end exhaust stack
- ● Cool-on-demand hydraulic-driven fan
- ● Glow-plug start aid
- ● 500-hour engine-oil-change interval
- ● 70% (35 deg.) off-level capability
- ▲ Engine-oil-sampling valve
- ● Hydraulic fan reverser

Hydraulic System

- ● Reduced-drift valve for boom down, arm in
- ● Auxiliary hydraulic valve section
- ● Spring-applied, hydraulically released automatic swing brake
- ● Auxiliary hydraulic-flow adjustments through monitor
- ● Auto power lift
- ● 4,000-hour hydraulic-oil-change interval
- ▲ Hydraulic-oil-sampling valve
- ▲ Auxiliary hydraulic lines
- ▲ Auxiliary pilot and electric controls
- ▲ Hydraulic filter restriction indicator kit
- ▲ Load-lowering control device
- ▲ Single-pedal propel control
- ▲ Pattern changer

Undercarriage

- ● Planetary drive with axial piston motors
- ● Propel motor shields
- ● Spring-applied, hydraulically released automatic propel brake
- ● Track guides, front idler and center
- ● Two-speed propel
- ● Upper carrier rollers (3)
- ● Sealed and lubricated track chain
- ▲ Double-bar grouser shoes, 24 in. (600 mm)
- ▲ Double-bar grouser shoes, 30 in. (750 mm)
- ▲ Double-bar grouser shoes, 36 in. (900 mm)

Upperstructure

- ▲ Counterweight-removal system
- ● Right- and left-hand mirrors
- ● Vandal locks with ignition key: Cab door / Fuel cap / Service doors / Toolbox
- ● Debris-screening side panel
- ● Service platform, left side
- ● Remote-mounted engine oil and fuel filters

Front Attachments

- ● Centralized lubrication system
- ● Dirt seals on all bucket pins
- ● No-boom-arm option
- ▲ Boom, 25 ft. 7 in. (7.8 m)
- ▲ Boom, mass excavating, 21 ft. 8 in. (6.6 m)
- ▲ Arm, mass excavating, 9 ft. 6 in. (2.9 m)
- ▲ Arm, 11 ft. 10 in. (3.6 m)
- ▲ Arm, 13 ft. 9 in. (4.2 m)
- ▲ Arm, 17 ft. 5 in. (5.3 m)
- ▲ Attachment quick-couplers
- ▲ Boom cylinder with plumbing to mainframe for no-boom-arm option
- ▲ Buckets: Ditching / Heavy duty / Heavy-duty high capacity / Severe-duty plate lip / Side cutters and teeth
- ▲ Material clamps
- ▲ Super-long fronts

Operator's Station

- ● Adjustable independent control positions (levers-to-seat, seat-to-pedals)
- ● AM/FM radio
- ● Auto climate control/air conditioner, 20,000 Btu/hr. (5.9 kW) with heater and pressurizer
- ● Built-in Operator's Manual storage compartment and manual
- ● Cell-phone power outlet, 12 volt, 60 watt, 5 amp
- ● Coat hook
- ● Deluxe air-suspension heated cloth seat with 4-in. (100 mm) adjustable armrests
- ● Floor mat
- ● Front windshield wiper with intermittent speeds
- ● Gauges (illuminated): Engine coolant / Fuel
- ● Horn, electric
- ● Hourmeter, electric
- ● Hydraulic shutoff lever, all controls
- ● Hydraulic warm-up control
- ● Interior light
- ● Large cup holder

Operator's Station *(continued)*

- ● Machine Information Center (MIC)
- ● Mode selectors (illuminated): Power modes – three / Travel modes – two / Work mode – one / Boom mode
- ● Multifunction, color LCD monitor with: Diagnostic capability / Multiple-language capabilities / Maintenance tracking / Clock / System monitoring with alarm features: Auto-idle, engine air cleaner restriction indicator light, engine check, engine coolant temperature indicator light with audible alarm, engine oil pressure indicator light with audible alarm, low-alternator-charge indicator light, low-fuel indicator light, fault code alert indicator, fuel-rate display, wiper-mode indicator, work-lights-on indicator, and work-mode indicator
- ● Fluid-level switch and indicator light for engine coolant and engine oil
- ▲ Monitor system with alarm features: Hydraulic oil filter restriction indicator light
- ● Motion alarm with cancel switch (conforms to SAE J994)
- ● Propel pedals and levers
- ● SAE two-lever control pattern
- ● Seat belt, 2 in. (51 mm), retractable
- ▲ Seat belt, 3 in. (76 mm), non-retractable
- ● Tinted glass
- ● Transparent tinted overhead hatch
- ● Hot/cold beverage compartment
- ▲ 24- to 12-volt D.C. radio convertors, 10 amp
- ▲ Circulation fan
- ▲ Protection screens for cab front, rear, and side
- ▲ Window vandal protection covers

Electrical

- ● 50-amp alternator
- ● Blade-type multi-fused circuits
- ● Positive terminal battery covers
- ▲ Cab extension wiring harness
- ● ZXLink™ Ultimate wireless communication system with 3 years of service

Lights

- ● Work lights: Halogen / One mounted on frame
- ● Work lights: One mounted on boom

Control Owning and Operating Costs

Customer Personal Service (CPS) is part of Hitachi's proactive, fix-before-fail strategy on machine maintenance that will help control costs, increase profits, and reduce stress. Included in this comprehensive lineup of ongoing programs and services are:

Fluid analysis program – tells you what's going on inside all of your machine's major components so you'll know if there's a problem before you see a decline in performance. Fluid analysis is included in most extended coverage and preventive-maintenance agreements.

Preventive Maintenance (PM) agreements – give you a fixed cost for maintaining a machine for a given period of time. They also help you avoid downtime by ensuring that critical maintenance work gets done right and on schedule. On-site preventive maintenance service performed where and when you need it helps protect you from the expense of catastrophic failures and lets you avoid waste-disposal hassles.

Extended coverage – gives you a fixed cost for machine repairs for a given period of time so you can effectively manage expenses. Whether you work in a severe-service setting, or you just want to spread the risk of doing business, this is a great way to custom-fit coverage to your operation. An extended coverage contract also travels well because it's backed by the company and is honored by all Hitachi dealers.

Customer Support Advisors (CSAs) – the CSA program lends a personal quality to Customer Personal Service (CPS). Certified CSAs have the knowledge and skills for helping make important decisions on machine maintenance and repair. Their mission is to help you implement a plan that's right for your business and take the burden of machine maintenance off your shoulders.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 6270B, using No. 2-D fuel at 35 API gravity. No derating is required up to 10,000-ft. (3050 m) altitude. Gross power is without cooling fan.
Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a unit with 54-in. (1370 mm) bucket, 36-in. (900 mm) triple semi-grouser shoes, 24,471-lb. (11 100 kg) counterweight, full fuel tank, and 175-lb. (79 kg) operator.

HITACHI

DKZX650HT3 Litho in U.S.A. (09-05)

Hitachi Construction and Mining Products • 1515 5th Avenue • Moline, IL 61265 • www.hitachiconstruction.com