# ZX85USB-5

## 42.4 kW (56.9 net hp)

ZX85USB


HITACHI

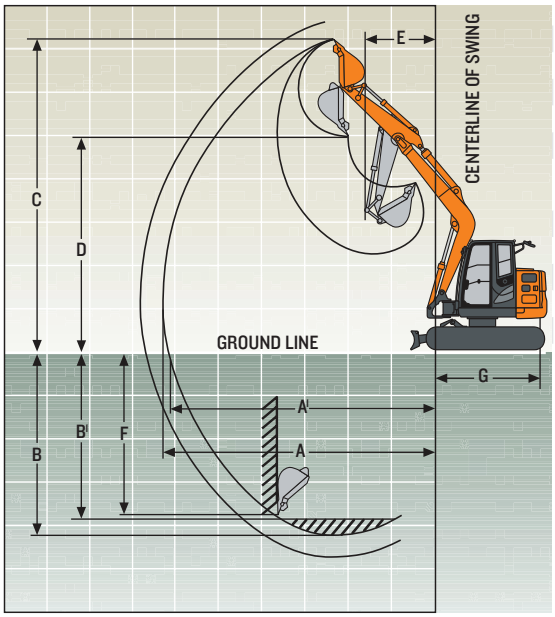
| | | | |
|---|---|---|---|
| **Engine** | | | |
| Manufacturer and Model | Yanmar 4TNV98C-WHBW | | |
| Non-Road Emission Standard | EPA Final Tier 4/EU Stage IV | | |
| Net Power (ISO 9249) | 42.4 kW (56.9 hp) @ 2,000 rpm | | |
| Cylinders | 4 | | |
| Displacement | 3.3L (202 cu. in.) | | |
| Aspiration | Natural | | |
| Off-Level Capacity | 70% (35 deg.) | | |
| **Cooling** | | | |
| Variable-speed fan; viscous clutch | | | |
| **Powertrain** | | | |
| 2-speed propel with automatic shift | | | |
| **Maximum Travel Speed** | | | |
| Low | 3.1 km/h (1.9 mph) | | |
| High | 5.0 km/h (3.1 mph) | | |
| Drawbar Pull | 6650 kgf (14,661 lb.) | | |
| **Hydraulics** | | | |
| Open Center, Load Sensing | | | |
| **Main Pumps** | 3 variable-displacement axial-piston pumps | | |
| Maximum Pump Flow | 2 x 72 + 56 L/m (2 x 19 + 15 gpm) | | |
| **Pilot Pump** | 1 gear | | |
| Maximum Rated Flow | 20 L/m (5.3 gpm) | | |
| System Relief Pressure | 3900 kPa (566 psi) | | |
| **System Operating Pressure** | | | |
| Implement Circuits | 26 000 kPa (3,771 psi) | | |
| Travel Circuits | 31 400 kPa (4,554 psi) | | |
| Swing Circuits | 25 000 kPa (3,626 psi) | | |
| **Controls** | Pilot levers, short stroke, low effort; hydraulic pilot controls with shutoff lever | | |
| **Cylinders** | | | |
| Heat-treated, chrome-plated, polished cylinder rods; hardened steel (replaceable bushings) pivot pins | | | |
| | **Bore** | **Rod Diameter** | **Stroke** |
| **Boom (1)** | 115 mm (4.5 in.) | 65 mm (2.6 in.) | 885 mm (34.8 in.) |
| **Arm (1)** | 95 mm (3.7 in.) | 60 mm (2.4 in.) | 900 mm (35.4 in.) |
| **Bucket (1)** | 85 mm (3.3 in.) | 55 mm (2.2 in.) | 730 mm (28.7 in.) |
| **Electrical** | | | |
| Batteries | 2 x 12 volt | | |
| Battery Capacity | 2 x 450 CCA | | |
| Alternator Rating | 50 amp | | |
| **Work Lights** | 2 halogen (1 mounted on boom and 1 on frame) | | |

# DASH-5

| | |
|---|---|
| **Undercarriage** | |
| **Rollers (each side)** | |
| Carrier | 1 |
| Track | 5 |
| Shoes (each side) | 40 |
| **Track** | |
| Adjustment | Hydraulic |
| Chain | Sealed and lubricated |
| **Swing Mechanism** | |
| Swing Speed | 10.5 rpm |
| Swing Torque | 16 600 Nm (12,244 lb.-ft.) |
| **Boom Swing** | |
| Left | 60 deg. |
| Right | 60 deg. |
| **Ground Pressure** | |
| 450-mm (18 in.) Rubber Crawler Pads | 41.5 kPa (6.0 psi) |
| 450-mm (18 in.) Continuous Rubber Belt | 41.4 kPa (6.0 psi) |
| 450-mm (18 in.) Triple Semi-Grouser Shoes | 41.3 kPa (6.0 psi) |
| 600-mm (24 in.) Triple Semi-Grouser Shoes | 31.7 kPa (4.6 psi) |
| **Serviceability** | |
| **Refill Capacities** | |
| Fuel Tank | 120L (31.7 gal.) |
| Cooling System | 9.7L (2.6 gal.) |
| Engine Oil with Filter | 12.3L (3.2 gal.) |
| Hydraulic Tank | 56L (15 gal.) |
| Hydraulic System | 103L (27 gal.) |
| Propel Gearbox (each) | 1.2L (1.3 qt.) |
| **Operating Weights** | |
| With 0.31-m$^3$ (0.41 cu. yd. ), 762-mm (30 in.), 313-kg (691 lb.) Bucket; 2.12-m (6 ft. 11 in.) Arm; 1408-kg (3,104 lb.) Counterweight; Full Fuel Tank; and 75-kg (165 lb.) Operator | |
| 2220-mm (7 ft. 3 in.) Blade and 450-mm (18 in.) Rubber Crawler Pads | 8729 kg (19,244 lb.) |
| 2220-mm (7 ft. 3 in.) Blade and 450-mm (18 in.) Triple Semi-Grouser Shoes | 8677 kg (19,130 lb.) |
| 2470-mm (8 ft. 1 in.) Blade and 600-mm (24 in.) Triple Semi-Grouser Shoes | 8874 kg (19,564 lb.) |
| 2220-mm (7 ft. 3 in.) Blade and 450-mm (18 in.) Continuous Rubber Belt | 8701 kg (19,182 lb.) |
| **Optional Components** | |
| Undercarriage (with the following) | |
| 450-mm (18 in.) Rubber Crawler Pads | 2871 kg (6,329 lb.) |
| 450-mm (18 in.) Continuous Rubber Belt | 2843 kg (6,268 lb.) |
| 450-mm (18 in.) Triple Semi-Grouser Shoes | 2819 kg (6,215 lb.) |
| 600-mm (24 in.) Triple Semi-Grouser Shoes | 2970 kg (6,548 lb.) |
| 1-Piece Boom (with arm cylinder) | 491 kg (1,082 lb.) |
| Arm with Bucket Cylinder and Linkage | |
| 1.62 m (5 ft. 4 in.) | 237 kg (522 lb.) |
| 2.12 m (6 ft. 11 in.) | 275 kg (606 lb.) |
| Boom Lift Cylinders | 89 kg (196 lb.) |
| 0.49-m$^3$ (0.64 cu. yd.), 1219-mm (48 in.) Ditching Bucket | 330 kg (728 lb.) |
| Counterweight (standard) | 1408 kg (3,104 lb.) |

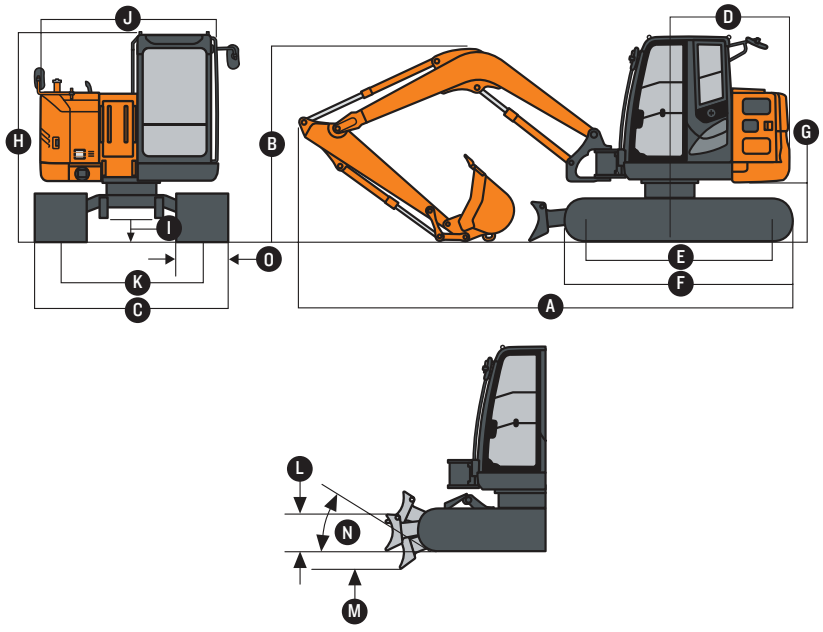
## Operating Dimensions

| | | Arm Length 1.62 m (5 ft. 4 in.) | Arm Length 2.12 m (6 ft. 11 in.) |
|---|---|---|---|
| | Arm Digging Force (ISO) | 35.5 kN (7,981 lb.) | 30.7 kN (6,902 lb.) |
| | Bucket Digging Force (ISO) | 46.6 kN (10,476 lb.) | 46.6 kN (10,476 lb.) |
| A | Maximum Reach | 7.21 m (23 ft. 8 in.) | 7.70 m (25 ft. 3 in.) |
| A' | Maximum Reach at Ground Level | 7.05 m (23 ft. 2 in.) | 7.55 m (24 ft. 9 in.) |
| B | Maximum Digging Depth | 3.99 m (13 ft. 1 in.) | 4.51 m (14 ft. 10 in.) |
| B' | Maximum Digging Depth at 2.44-m (8 ft.) Flat Bottom | 3.62 m (11 ft. 11 in.) | 4.20 m (13 ft. 9 in.) |
| C | Maximum Cutting Height | 6.79 m (22 ft. 3 in.) | 7.14 m (23 ft. 5 in.) |
| D | Maximum Dumping Height | 4.77 m (15 ft. 8 in.) | 5.08 m (16 ft. 8 in.) |
| E | Minimum Swing Radius | 2.74 m (9 ft. 0 in.) | 2.89 m (9 ft. 6 in.) |
| F | Maximum Vertical Wall | 3.47 m (11 ft. 5 in.) | 4.05 m (13 ft. 3 in.) |
| G | Tail Swing Radius | 1.49 m (4 ft. 11 in.) | 1.49 m (4 ft. 11 in.) |




## Machine Dimensions

| | | Arm Length 1.62 m (5 ft. 4 in.) | Arm Length 2.12 m (6 ft. 11 in.) |
|---|---|---|---|
| A | Overall Length | 6.64 m (21 ft. 9 in.) | 6.82 m (22 ft. 5 in.) |
| B | Overall Height | | |
| | With 450-mm (18 in.) Rubber Crawler Pads | 2.61 m (8 ft. 7 in.) | |
| | With Steel Shoes | 2.53 m (8 ft. 4 in.) | |
| C | Undercarriage Width | | |
| | With 450-mm (18 in.) Shoes | 2.20 m (7 ft. 3 in.) | |
| | With 600-mm (24 in.) Shoes | 2.47 m (8 ft. 1 in.) | |
| D | Rear-End Length/Swing Radius | 1.49 m (4 ft. 11 in.) | |
| E | Distance Between Idler/Sprocket Centerline | 2.29 m (7 ft. 6 in.) | |
| F | Undercarriage Length | 2.92 m (9 ft. 7 in.) | |
| G | Counterweight Clearance | 0.72 m (28 in.) | |
| H | Cab Height | 2.53 m (8 ft. 4 in.) | |
| I | Ground Clearance | 360 mm (14 in.) | |
| J | Upperstructure Width | 2.32 m (7 ft. 7 in.) | |
| K | Gauge Width | 1.87 m (6 ft. 2 in.) | |
| L | Blade Lift Height | 340 mm (13 in.) | |
| | Blade Height | 460 mm (18 in.) | |
| | Blade Width | | |
| | With 450-mm (18 in.) Shoes | 2200 mm (7 ft. 3 in.) | |
| | With 600-mm (24 in.) Shoes | 2470 mm (8 ft. 1 in.) | |
| M | Blade Cut Below Grade | 320 mm (13 in.) | |
| N | Blade Lift Angle | 26 deg. | |
| O | Track Width | | |
| | With 450-mm (18 in.) Shoes | 0.45 m (18 in.) | |
| | With 600-mm (24 in.) Shoes | 0.60 m (24 in.) | |



# DASH-5

## Lift Capacities

**Boldface type** indicates hydraulically limited capacities; lightface type indicates stability-limited capacities, in kg (lb.). Ratings are at bucket lift hook, using standard counterweight, situated on firm, level, uniform supporting surface. Total load includes weight of cables, hook, etc. Figures do not exceed 87% of hydraulic capacity or 75% of weight needed to tip machine. All lift capacities are based on ISO 10567.

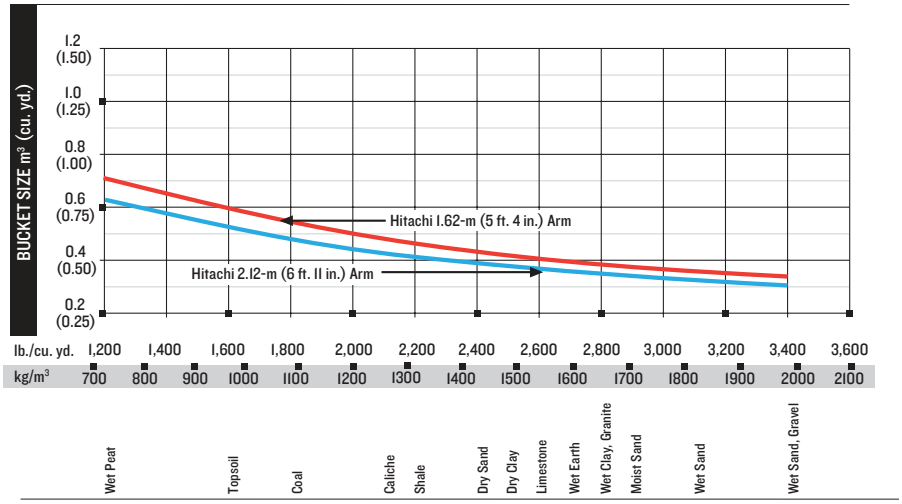
| Load Point Height | 1.5 m (5 ft.) | | 3.0 m (10 ft.) | | 4.5 m (15 ft.) | | 6.0 m (20 ft.) | |
|---|---|---|---|---|---|---|---|---|
| Horizontal Distance from Centerline of Rotation | Over Front | Over Side | Over Front | Over Side | Over Front | Over Side | Over Front | Over Side |
| With 3.67-m (12 ft. 2 in.) boom, 1.62-m (5 ft. 4 in.) arm, 0.28-m³ (0.37 cu. yd.) bucket, 450-mm (18 in.) rubber pads, and 2200-mm (7 ft. 3 in.) blade | | | | | | | | |
| 3.0 m (10 ft.) | | | **3432 (7,567)** | 2887 (6,365) | **2312 (5,096)** | 1580 (3,484) | | |
| 1.5 m (5 ft.) | | | | | **2819 (6,215)** | 1481 (3,265) | **2078 (4,582)** | 992 (2,188) |
| Ground Line | | | **2434 (5,367)** | **2434 (5,367)** | **3047 (6,717)** | 1416 (3,121) | | |
| –1.5 m (–5 ft.) | | | **4279 (9,433)** | 2503 (5,518) | **2711 (5,976)** | 1410 (3,109) | | |
| With 3.67-m (12 ft. 2 in.) boom, 2.12-m (6 ft. 11 in.) arm, 0.28-m³ (0.37 cu. yd.) bucket, 450-mm (18 in.) rubber pads, and 2200-mm (7 ft. 3 in.) blade | | | | | | | | |
| 4.5 m (15 ft.) | | | | | **1735 (3,825)** | 1656 (3,651) | | |
| 3.0 m (10 ft.) | | | | | **2044 (4,506)** | 1597 (3,521) | **1809 (3,988)** | 1022 (2,253) |
| 1.5 m (5 ft.) | | | | | **2619 (5,773)** | 1488 (3,280) | **1968 (4,339)** | 986 (2,174) |
| Ground Line | | | **2577 (5,682)** | 2445 (5,391) | **2992 (6,597)** | 1403 (3,092) | **2069 (4,561)** | 952 (2,098) |
| –1.5 m (–5 ft.) | **2683 (5,914)** | **2683 (5,914)** | **4770 (10,516)** | 2448 (5,397) | **2868 (6,322)** | 1377 (3,036) | | |
| –3.0 m (–10 ft.) | | | **3130 (7,012)** | 3130 (5,560) | | | | |
| With 3.67-m (12 ft. 2 in.) boom, 1.62-m (5 ft. 4 in.) arm, 0.28-m³ (0.37 cu. yd.) bucket, 600-mm (24 in.) shoes, and 2470-mm (8 ft. 1 in.) blade | | | | | | | | |
| 3.0 m (10 ft.) | | | **3432 (7,567)** | 2927 (6,453) | **2312 (5,096)** | 1603 (3,535) | | |
| 1.5 m (5 ft.) | | | | | **2819 (6,215)** | 1505 (3,317) | **2078 (4,582)** | 1009 (2,224) |
| Ground Line | | | **2434 (5,367)** | **2434 (5,367)** | **3047 (6,717)** | 1439 (3,172) | | |
| –1.5 m (–5 ft.) | | | **4279 (9,433)** | 2543 (5,606) | **2711 (5,976)** | 1433 (3,160) | | |
| With 3.67-m (12 ft. 2 in.) boom, 2.12-m (6 ft. 11 in.) arm, 0.28-m³ (0.37 cu. yd.) bucket, 600-mm (24 in.) shoes, and 2470-mm (8 ft. 1 in.) blade | | | | | | | | |
| 4.5 m (15 ft.) | | | | | **1735 (3,825)** | 1679 (3,702) | | |
| 3.0 m (10 ft.) | | | | | **2044 (4,506)** | 1620 (3,572) | **1809 (3,988)** | 1038 (2,289) |
| 1.5 m (5 ft.) | | | | | **2619 (5,773)** | 1511 (3,332) | **1968 (4,339)** | 1002 (2,210) |
| Ground Line | | | **2577 (5,682)** | 2485 (5,479) | **2992 (6,597)** | 1426 (3,143) | **2069 (4,561)** | 968 (2,134) |
| –1.5 m (–5 ft.) | **2683 (5,914)** | **2683 (5,914)** | **4770 (10,516)** | 2488 (5,485) | **2868 (6,322)** | 1400 (3,087) | | |
| –3.0 m (–10 ft.) | | | **3130 (7,012)** | 3130 (5,647) | | | | |
| With 3.67-m (12 ft. 2 in.) boom, 2.12-m (6 ft. 11 in.) arm, less bucket, 450-mm (18 in.) continuous rubber belt, and 2200-mm (7 ft. 3 in.) blade | | | | | | | | |
| 4.5 m (15 ft.) | | | | | **1728 (3,810)** | 1579 (3,480) | | |
| 3.0 m (10 ft.) | | | | | **2050 (4,520)** | 1520 (3,350) | **1805 (3,980)** | 971 (2,140) |
| 1.5 m (5 ft.) | | | | | **2626 (5,790)** | 1411 (3,110) | **1969 (4,340)** | 934 (2,060) |
| Ground Line | | | **2595 (5,720)** | 2309 (5,090) | **2994 (6,600)** | 1329 (2,930) | **2068 (4,560)** | 903 (1,990) |
| –1.5 m (–5 ft.) | **2708 (5,970)** | **2708 (5,970)** | **4758 (10,490)** | 2309 (5,090) | **2862 (6,310)** | 1306 (2,880) | | |
| –3.0 m (–10 ft.) | | | **3139 (6,920)** | 2386 (5,260) | | | | |

## Buckets

A full line of buckets is offered to meet a wide variety of applications. Replaceable cutting edges are available through Hitachi Parts. Optional side cutters add 150 mm (6 in.) to bucket widths.

| Type Bucket | Bucket Width | | Bucket Capacity | | Bucket Weight | | Bucket Dig Force (ISO) | | Arm Dig Force (ISO) 1.62 m (5 ft. 4 in.) | | Arm Dig Force (ISO) 2.12 m (6 ft. 11 in.) | | Bucket Tip Radius | | Number of Teeth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in. | $m^3$ | cu. yd. | kg | lb. | kN | lb. | kN | lb. | kN | lb. | mm | in. | |
| Heavy Duty | 610 | 24 | 0.31 | 0.40 | 287 | 633 | 54 | 12,061 | 38 | 8,491 | 32 | 7,162 | 1087 | 42.80 | 5 |
| Heavy Duty | 762 | 30 | 0.41 | 0.53 | 333 | 735 | 54 | 12,061 | 38 | 8,491 | 32 | 7,162 | 1087 | 42.80 | 6 |
| Heavy Duty | 914 | 36 | 0.50 | 0.66 | 380 | 837 | 54 | 12,061 | 38 | 8,491 | 32 | 7,162 | 1087 | 42.80 | 7 |
| Ditching | 1219 | 48 | 0.49 | 0.64 | 330 | 727 | 64 | 14,344 | 40 | 8,911 | 33 | 7,473 | 907 | 35.69 | 0 |

## 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.

# ADDITIONAL EQUIPMENT

**Key:** ● Standard ▲ Optional or special

| | Engine |
|---|---|
| ● | Auto-idle system |
| ● | Batteries (2 – 12 volt) |
| ● | Coolant recovery tank |
| ● | Single-element air filter |
| ● | Electronic engine control |
| ● | Enclosed fan guard (conforms to SAE J1308) |
| ● | Engine coolant to –37 deg. C (–34 deg. F) |
| ● | Fuel filter with water separator |
| ● | Full-flow oil filter |
| ● | Radiator and oil cooler with dust-protective net |
| ● | Glow-plug start aid |
| ● | 500-hour engine oil-change interval |
| ● | 70% (35 deg.) off-level capacity |
| ● | Isolation mounted |
| | **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 |
| ● | 5,000-hour hydraulic-oil-change interval |
| ▲ | Auxiliary hydraulic lines |
| ▲ | Auxiliary pilot and electric controls |
| ▲ | Hydraulic filter restriction indicator kit |
| ▲ | Load-lowering control device |
| ▲ | Single-pedal propel control |
| ▲ | Control pattern change valve |
| | **Undercarriage** |
| ● | Planetary drive with axial piston motors |
| ● | Propel motor shields |
| ● | Spring-applied, hydraulically released automatic propel brake |
| ● | 2-speed propel with automatic shift |
| ● | Upper carrier roller (1) |
| ● | Sealed and lubricated track chain |
| ● | Undercarriage with blade |
| ▲ | Triple semi-grouser shoes, 450 mm (18 in.) |
| ▲ | Triple semi-grouser shoes, 600 mm (24 in.) |
| ▲ | Rubber crawler pads, 450 mm (18 in.) |
| ▲ | Rubber belt, continuous, 450 mm (18 in.) |

| | Upperstructure |
|---|---|
| ● | Counterweight, 1408 kg (3,104 lb.) |
| ● | Right- and left-hand mirrors |
| ● | Vandal locks with ignition key: Cab door / Engine hood / Fuel cap / Service doors |
| ● | Remote-mounted engine oil and fuel filters |
| | **Front Attachments** |
| ● | Centralized lubrication system |
| ● | Dirt seals on all bucket pins |
| ● | Less boom and arm |
| ● | Oil-impregnated bushings |
| ● | Reinforced resin thrust plates |
| ● | Tungsten carbide thermal coating on arm-to-bucket joint |
| ▲ | Arm, 1.62 m (5 ft. 4 in.) |
| ▲ | Arm, 2.12 m (6 ft. 11 in.) |
| ▲ | Attachment quick-couplers |
| ▲ | Buckets: Ditching / Heavy duty / Heavyduty high capacity / Side cutters and teeth |
| | **Operator's Station** |
| ● | Meets ISO 12117-2 for ROPS |
| ● | Adjustable independent control positions (seat-to-pedals) |
| ● | AM/FM radio |
| ● | Auto climate control/air conditioner 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 cloth suspension seat with adjustable armrests |
| ● | Floor mat |
| ● | Front windshield wiper with intermittent speeds |
| ● | Gauges (illuminated): Engine coolant / Fuel |
| ● | Horn, electric |
| ● | Hour meter, electric |
| ● | Hydraulic shutoff lever, all controls |
| ● | Hydraulic warm-up control |
| ● | Interior light |
| ● | Large cup holder |
| ● | Machine Information Center (MIC) |

| | Operator's Station (continued) |
|---|---|
| ● | Mode selectors (illuminated): Power modes (2) / Travel modes (2 with automatic shift) / Work mode (1) |
| ● | Multifunction, color LCD monitor with: Diagnostic capability / Multiple-language capabilities / Maintenance tracking / Clock / System monitoring with alarm features: Auto-idle indicator, 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 |
| ● | Motion alarm with cancel switch (conforms to SAE J994) |
| ● | Auxiliary hydraulic control switches in right console lever |
| ● | SAE 2-lever control pattern |
| ● | Seat belt, 51 mm (2 in.), retractable |
| ● | Tinted glass |
| ● | Transparent tinted overhead window |
| ● | Hot/cold beverage compartment |
| ▲ | Seat belt, 76 mm (3 in.), non-retractable |
| ▲ | 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 |
| ▲ | ZXLink™ wireless communication system (available in specific countries; see your dealer for details) |
| | **Lights** |
| ● | Work lights: Halogen / 1 mounted on boom / 1 mounted on frame |

See your Hitachi dealer for further information.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO 9249. No derating is required up to 3050-m (10,000 ft.) altitude. 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 unit with standard equipment; 0.31-$m^3$ (0.41 cu. yd.), 762-mm (30 in.), 313-kg (691 lb.) bucket; 450-mm (18 in.) rubber crawler pad shoes; 2.12-m (6 ft. 11 in.) arm; full fuel tank; and 75-kg (165 lb.) operator; 1408-kg (3,104 lb.) counterweight.

HITACHI

hitachiconstruction.com

DKA85HT5 Litho in U.S.A. (13-09)

Hitachi Construction and Mining Products
1515 5th Avenue • Moline, IL 61265