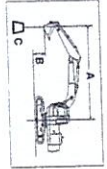


LIFTING CAPACITIES

ZX60USB-3F [Rubber shoes]

Notes: 1. Rating are based on SAE J1107.
 2. Lifting capacity of the ZX60S Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
 3. The load point is a hook (not standard equipment) located on the back of the bucket.



A: Load radius
 B: Load point height
 C: Lifting capacity

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm	1.22	1.10	1.08	1.06	1.04	1.02	1.06	0.99	0.96	0.94	0.92	0.90	5.22
	1.27	1.08	1.02	0.98	0.72		1.03	0.94	0.91	0.89	0.87	0.85	5.73
	1.94	1.60	1.44	1.34	1.24		1.06	0.91	0.89	0.87	0.85	0.83	5.98
	1.0m	1.71	1.39	1.09	0.90	0.77	1.04	0.83	0.83	0.83	0.83	0.83	5.71
	0(Ground)	2.35	2.35	1.72	1.40	1.08	1.08	0.89	0.89	0.89	0.89	0.89	5.18
	1.0m	2.50	2.50	1.72	1.40	1.10	1.10	0.91	0.91	0.91	0.91	0.91	5.18
	2.0m	2.60	2.60	1.72	1.40	1.10	1.10	0.91	0.91	0.91	0.91	0.91	5.18

Unit: 1 000 kg

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm	1.22	1.10	1.08	1.06	1.04	1.02	1.06	0.99	0.96	0.94	0.92	0.90	5.22
	1.27	1.08	1.02	0.98	0.72		1.03	0.94	0.91	0.89	0.87	0.85	5.73
	1.94	1.60	1.44	1.34	1.24		1.06	0.91	0.89	0.87	0.85	0.83	5.98
	1.0m	1.71	1.39	1.09	0.90	0.77	1.04	0.83	0.83	0.83	0.83	0.83	5.71
	0(Ground)	2.35	2.35	1.72	1.40	1.08	1.08	0.89	0.89	0.89	0.89	0.89	5.18
	1.0m	2.50	2.50	1.72	1.40	1.10	1.10	0.91	0.91	0.91	0.91	0.91	5.18
	2.0m	2.60	2.60	1.72	1.40	1.10	1.10	0.91	0.91	0.91	0.91	0.91	5.18

Unit: 1 000 kg

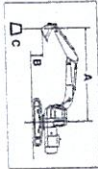
Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm	1.09	1.09	1.09	1.09	1.09	1.09	1.09	0.89	0.89	0.89	0.89	0.89	5.61
	1.23	1.03	0.94	0.70			1.03	0.89	0.89	0.89	0.89	0.89	6.08
	1.89	1.68	1.52	1.42	1.32		1.06	0.91	0.89	0.87	0.85	0.83	6.29
	1.0m	1.69	1.38	1.08	0.80	0.64	1.04	0.83	0.83	0.83	0.83	0.83	6.06
	0(Ground)	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	1.0m	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	2.0m	2.64	2.64	2.02	1.78	1.46	1.04	0.83	0.83	0.83	0.83	0.83	4.70

Unit: 1 000 kg

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm	1.09	1.09	1.09	1.09	1.09	1.09	1.09	0.89	0.89	0.89	0.89	0.89	5.61
	1.23	1.03	0.94	0.70			1.03	0.89	0.89	0.89	0.89	0.89	6.08
	1.89	1.68	1.52	1.42	1.32		1.06	0.91	0.89	0.87	0.85	0.83	6.29
	1.0m	1.69	1.38	1.08	0.80	0.64	1.04	0.83	0.83	0.83	0.83	0.83	6.06
	0(Ground)	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	1.0m	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	2.0m	2.64	2.64	2.02	1.78	1.46	1.04	0.83	0.83	0.83	0.83	0.83	4.70

Unit: 1 000 kg

Notes: 1. Rating are based on SAE J1107.
 2. Lifting capacity of the ZX60S Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
 3. The load point is a hook (not standard equipment) located on the back of the bucket.



A: Load radius
 B: Load point height
 C: Lifting capacity

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm with Add. Counter weight	1.22	1.22	1.22	1.22	1.22	1.22	1.06	0.78	0.78	0.78	0.78	0.78	5.22
	1.31	1.21	1.15	1.08	0.80		1.03	0.85	0.85	0.85	0.85	0.85	5.73
	1.96	1.70	1.58	1.48	1.38		1.06	0.91	0.89	0.87	0.85	0.83	5.98
	1.0m	1.58	1.23	1.03	0.80	0.74	1.04	0.83	0.83	0.83	0.83	0.83	5.71
	0(Ground)	2.35	2.35	1.88	1.59	1.25	1.04	0.83	0.83	0.83	0.83	0.83	5.18
	1.0m	2.60	2.60	1.88	1.59	1.25	1.04	0.83	0.83	0.83	0.83	0.83	5.18
	2.0m	2.60	2.60	1.88	1.59	1.25	1.04	0.83	0.83	0.83	0.83	0.83	5.18

Unit: 1 000 kg

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm with Add. Counter weight	1.22	1.22	1.22	1.22	1.22	1.22	1.06	0.78	0.78	0.78	0.78	0.78	5.22
	1.31	1.21	1.15	1.08	0.80		1.03	0.85	0.85	0.85	0.85	0.85	5.73
	1.96	1.70	1.58	1.48	1.38		1.06	0.91	0.89	0.87	0.85	0.83	5.98
	1.0m	1.58	1.23	1.03	0.80	0.74	1.04	0.83	0.83	0.83	0.83	0.83	5.71
	0(Ground)	2.35	2.35	1.88	1.59	1.25	1.04	0.83	0.83	0.83	0.83	0.83	5.18
	1.0m	2.60	2.60	1.88	1.59	1.25	1.04	0.83	0.83	0.83	0.83	0.83	5.18
	2.0m	2.60	2.60	1.88	1.59	1.25	1.04	0.83	0.83	0.83	0.83	0.83	5.18

Unit: 1 000 kg

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm with Add. Counter weight	1.09	1.09	1.09	1.09	1.09	1.09	1.09	0.89	0.89	0.89	0.89	0.89	5.61
	1.23	1.03	0.94	0.70			1.03	0.89	0.89	0.89	0.89	0.89	6.08
	1.89	1.68	1.52	1.42	1.32		1.06	0.91	0.89	0.87	0.85	0.83	6.29
	1.0m	1.69	1.38	1.08	0.80	0.64	1.04	0.83	0.83	0.83	0.83	0.83	6.06
	0(Ground)	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	1.0m	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	2.0m	2.64	2.64	2.02	1.78	1.46	1.04	0.83	0.83	0.83	0.83	0.83	4.70

Unit: 1 000 kg

Conditions	Rating over-front						Rating over-side or 380 degrees						At max. reach
	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	1.0m	2.0m	3.0m	4.0m	5.0m	6.0m	
Boom 2.97 m Arm 1.50 m Bucket ISO 0.24 m ³ Rubber shoes 400 mm with Add. Counter weight	1.09	1.09	1.09	1.09	1.09	1.09	1.09	0.89	0.89	0.89	0.89	0.89	5.61
	1.23	1.03	0.94	0.70			1.03	0.89	0.89	0.89	0.89	0.89	6.08
	1.89	1.68	1.52	1.42	1.32		1.06	0.91	0.89	0.87	0.85	0.83	6.29
	1.0m	1.69	1.38	1.08	0.80	0.64	1.04	0.83	0.83	0.83	0.83	0.83	6.06
	0(Ground)	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	1.0m	1.50	1.50	1.14	0.90	0.75	1.04	0.83	0.83	0.83	0.83	0.83	5.97
	2.0m	2.64	2.64	2.02	1.78	1.46	1.04	0.83	0.83	0.83	0.83	0.83	4.70

Unit: 1 000 kg

SPECIFICATIONS

ZX60USB-3F

ENGINE

Model	Yanmar 4TNV98
Type	4-cycle water-cooled, direct injection
No. of cylinders	4
Rated power	ISO 9249, net: 40.5 kW (54.3 HP) at 2 000 min ⁻¹ (rpm)
EEC 80/1269, net	40.5 kW (54.3 HP) at 2 000 min ⁻¹ (rpm)
SAE J1349, net	40.5 kW (54.3 HP) at 2 000 min ⁻¹ (rpm)
Maximum torque	236 Nm (24 kgf m) at 1 300 min ⁻¹ (rpm)
Piston displacement	3.318 L
Bore and stroke	98 mm x 110 mm
Battery	1 x 12 V / 92 Ah

HYDRAULIC SYSTEM

- Work mode selector
 - Digging mode / Attachment mode
 - Engine speed sensing system
- Main pumps: 1 variable displacement axial piston pumps
- Maximum of flow: 1 x 144 L/min
- Pilot pump: 1 gear pump
- Maximum of flow: 10.4 L/min

Hydraulic Motors

- Travel: 2 variable displacement axial piston motors
- Swing: 1 axial piston motor

Relief Valve Settings

- Implement circuit: 24.5 MPa (250 kgf/cm²)
- Swing circuit: 24.5 MPa (250 kgf/cm²)
- Travel circuit: 25.7 MPa (262 kgf/cm²)
- Pilot circuit: 3.9 MPa (40 kgf/cm²)

Hydraulic Cylinders

High-strength piston rods and tubes. Cylinder cushion mechanisms provided in boom and arm cylinders to absorb shock at stroke ends.

Dimensions

Item	Quantity	Bore	Rod diameter	Stroke
Boom	1	110 mm	60 mm	785 mm
Arm	1	90 mm	55 mm	770 mm
Bucket	1	80 mm	50 mm	570 mm
Blade	1	120 mm	70 mm	135 mm
Boom swing	1	95 mm	55 mm	710 mm

Hydraulic Filters

Hydraulic circuits use high-quality hydraulic filters. A suction filter is incorporated in the suction line, and full-flow filters in the return line.

CONTROLS

- Hydraulic pilot controls levers for all operations.
- Implement levers: 2
- Travel levers with pedals: 2
- Blade lever: 1

WEIGHTS AND GROUND PRESSURE

Equipped with 2.97 m boom, 1.50 m 4-side reinforced arm and 0.24 m³ bucket (ISO heaped).

Shoe type	Shoe width	Operating weight	Ground pressure
Grouser shoes	400 mm	6 050 kg	35 kPa (0.36 kgf/cm ²)
Rubber shoes	400 mm	5 990 kg	34 kPa (0.35 kgf/cm ²)
Pad crawler shoes	400 mm	6 120 kg	35 kPa (0.36 kgf/cm ²)



UPPERSTRUCTURE

Reinforcing Frame
Welded sturdy box construction, using heavy-gauge steel plates for rig-
grobness. D-section frame for resistance to deformation.

Swing Device

Axial piston motor with planetary reduction gear is lubricated by hydraulic oil. Swing circle is single-row, shear-type ball bearing with induction-hard-
ened internal gear. Internal gear and pinion gear are immersed in lubricant.
Swing parking brake is spring-set/hydraulic-released disc type.
Swing speed: 9.5 min⁻¹ (rpm)
Swing torque: 110 kNm (1 120 kgf m)

Operator's Cab

Independent spacious cab, 960 mm wide by 1 520 mm high, conform-
ing to ISO* Standards. Reinforced glass windows on 4 sides for visibility.
Front windows (upper and lower) can be opened. Reaching seat.
*International Standardization Organization

UNDERCARRIAGE

Track: Tractor-type undercarriage. Welded track frame using selected materials.
Side frame welded to track frame.

Numbers of Rollers on Each Side

- Upper rollers: 1
Lower rollers: 4

Travel Device

Each track driven by 2-speed axial piston motor through planetary re-
duction gear for counterrotation of the tracks. Sprockets are replaceable.
Parking brake is spring-set/hydraulic-released disc type.
Automatic transmission system: High-Low.
Travel speeds: High: 0 to 4.5 km/h
Low: 0 to 2.5 km/h

Maximum traction force: 39.8 kN (4 058 kgf)

Gradeability: 58 % (30 degree) continuous

SERVICE REFILL CAPACITIES

Fuel tank	120.0 L
Engine coolant	6.5 L
Engine oil	11.9 L
Travel device (each side)	0.9 L
Hydraulic system	127.5 L
Hydraulic oil tank	100.0 L

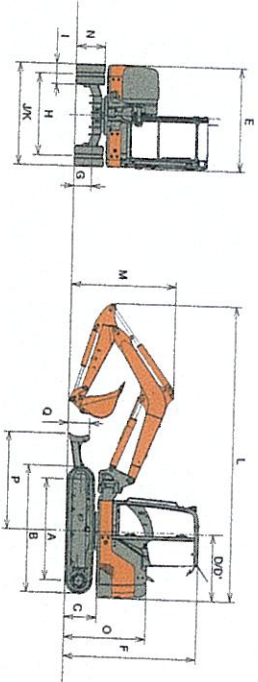
BACKHOE ATTACHMENTS

Boom and arms are of welded, box-section design, 2.97 m boom, 1.50 m
and 1.85 m 4-side reinforced type arms are available.

BUCKETS

Capacity ISO heaped	Width without side cutters	Weight
0.22 m ³	650 mm	135 kg
0.24 m ³	700 mm	141 kg

DIMENSIONS



Item	ZX60USB-3F	Unit: mm
A Distance between turnbuckles	1 980	
B Undercarriage length	2 500 (2 450)	
C Counterweight clearance	620 (615)	
D Rear-end swing radius	1 300	
E Overall width of upperstructure	2 000	
F Overall height of cab	2 560 (2 550)	
G Min. ground clearance	335 (330)	
H Track gauge	1 600	
I Track shoe width	400	
J Undercarriage width	2 000	
K Overall width	2 000	
L Overall length	5 760	
M With 1.50 m arm	5 790	
N With 1.85 m arm	2 000	
O Engine cover height	2 180	
P Horizontal distance to blade	560 (555)	
Q Blade height	1 570 (1 560)	
Excluding track shoe hgt	1 900	
Excluding track shoe hgt	415	

WORKING RANGES

Data in () are dimensions of grouser shoe.

Item	ZX60USB-3F	Unit: mm
A Max. digging reach	1 510 m	
A' Max. digging reach (on ground)	6 230	
B Max. digging depth	6 090	
C Max. cutting height	3 770	
D Max. dumping height	5 950	
E Max. swing radius	4 170	
F Max. vertical wall	2 470	
G Front height at Max. swing radius	3 050	
H Min. level crowding distance	4 560	
I Working radius at Max. swing radius (Max. boom-swing angle)	2 180	
J Blade bottom highest position above ground	2 000	
K Blade bottom lowest position above ground	2 080	
L Critical distance (Max. boom-swing angle)	445	
L' Critical distance (Max. boom-swing angle)	390	
Bucket digging force* SAE: PCSA	720 (80/950/60)	
Bucket digging force* SAE: FSCSA	41.1 kN (4 190 kgf)	
Arm crowd force* ISO	31.1 kN (3 170 kgf)	
Arm crowd force* SAE: PCSA	35.9 kN (3 660 kgf)	
Arm crowd force* SAE: FSCSA	27.0 kN (2 750 kgf)	
Excluding track shoe hgt *	29.5 kN (3 010 kgf)	
Excluding track shoe hgt *	25.9 kN (2 630 kgf)	