

ZAXIS-5G series
Forestry Excavator

HITACHI

Reliable solutions

ZAXIS 138MF

Southeast Asia



Forester



HYDRAULIC EXCAVATOR

Model Code : ZX138MF-5G

Engine Rated Power : 67 kW (90 HP)

Operating Weight : 14,900 - 15,800 kg

Backhoe Bucket (ISO Heaped) : 0.45 - 0.50 m³



The Forester ZX138MF-5G Built for Harsh Forestry Work.

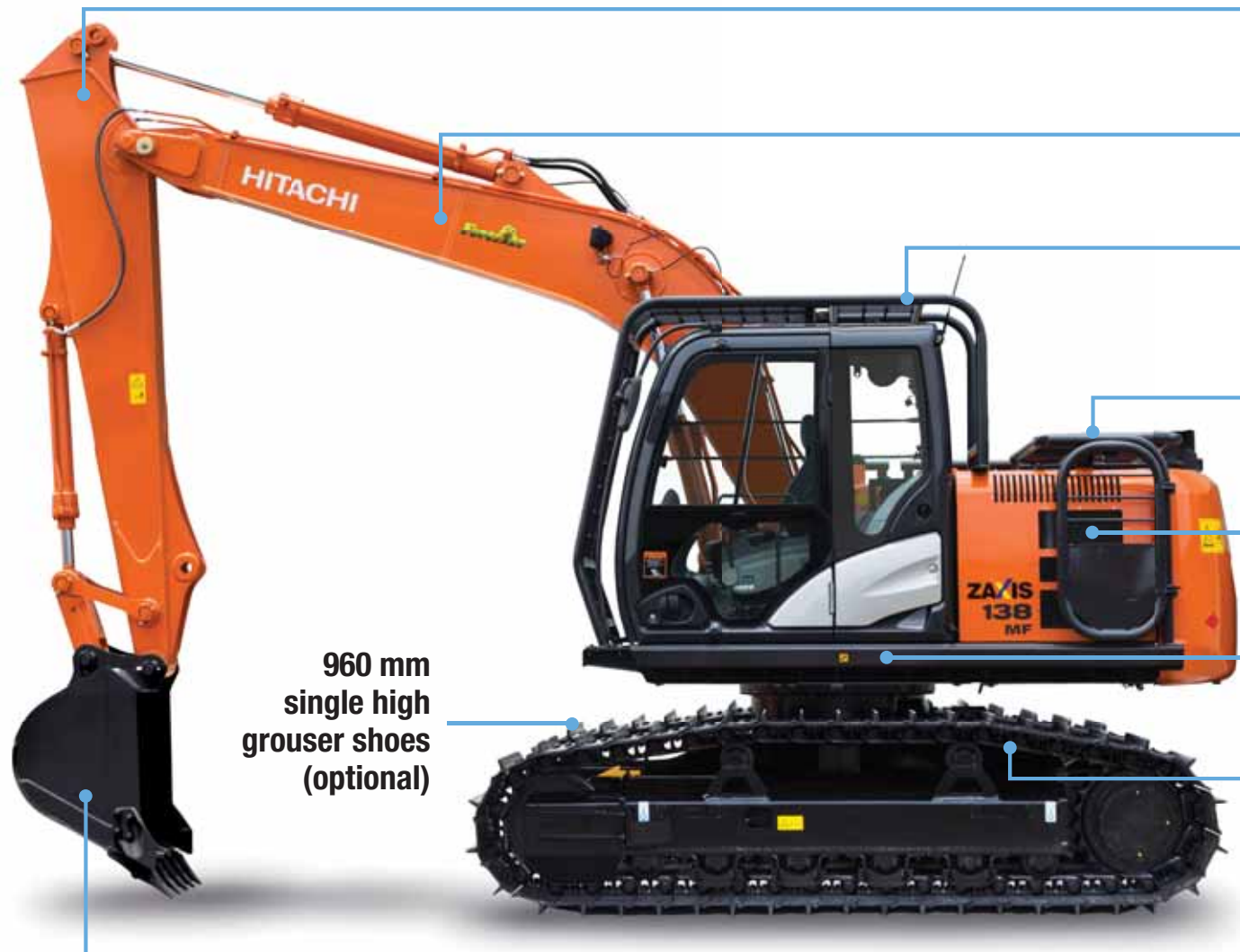
HITACHI introducing ZX138MF-5G, the power warrior successor to our tested and proven successful ZX138MF. The new ZAXIS-5G takes everything that the ZX138MF is renowned for and pushes it several steps further, offering you unprecedented durability, quality, fuel efficiency and impressive cooling ability that is purpose built for the harshness of forestry work.

For Southeast Asia

The forester ZX138MF-5G, built on years of operating experience in Southeast Asia, offers high productivity and durability what customers expect most on tough forestry job sites.

By HITACHI

The ZX138MF-5G, designed and built on Hitachi original technologies and manufacturing prowess, to allow for productive, reliable forestry work.



3.01m reinforced arm for forestry

Reinforced forestry boom

Exclusive cab guards (optional)

Exclusive body guards (optional)

Durable, reliable engine

Side bumper

Exclusive reinforced undercarriage (Idler bracket, upper roller, 4 track guard, track links)

Bucket (optional)

960 mm single high grouser shoes (optional)

Reliability

Long Reach Front

Max. working Reach (with fix grapple) 8 810 mm



Durable Non-Common Rail Type Engine

ZX138MF-5G comes with an impressive, durable non-common Rail Type Engine which is inherited from previous models, and recognized for it.



Robust Forestry Undercarriage

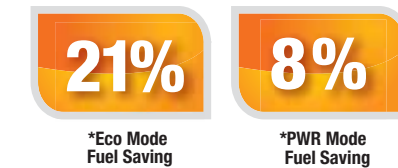
The forestry undercarriage is rugged enough to move about in woods and deliver plenty of traction force. A low ground pressure also helps increase high mobility. The forestry undercarriage is high and wide: Ample ground clearance and wide track gauge reduce striking against obstacles such as stumps and stumps.

	ZX138MF-5G	ZX130-5G
Min. ground clearance	575 mm	410 mm
Track gauge	2 040 mm	1 990 mm

Cost Saving and Increase Productivity

Up To 21% In Fuel Consumption Savings

Increase productivity by 4% while saving up to 8% fuel on PWR mode. Our ECO mode advances fuel efficiency further to a staggering 21%.



Swift Front Movements with HIOS* III Hydraulics

Rapid Arm Roll-in



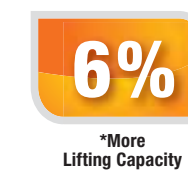
Rapid Arm roll-in speed increased by 20%, thanks to the *HIOS III hydraulic system developed by industry-leading hydraulic technologies and a wealth of experience. Actuators work quickly by boom weight, without needing a regenerative circuit and pressure oil.

*Human & Intelligent Operation System

Fast Arm Speed During Boom Lowering

Arm speed increases by boom weight during boom lowering, without needing pressure oil from a pump. That is, arm circuit flow is increased for higher arm speed, allowing for quick loading of a dump truck and positioning of the front.

Improvement In Lifting Performance



The amount of automatic pressure boost in the Auto Power Boost, which automatically boosts lifting power when handling heavier load. A 6% improvement in lifting capacity is attained in most of the lifting ranges of ZX138MF-5G.

* % comparison vs conventional ZX138MF



Triple grouser shoes is available

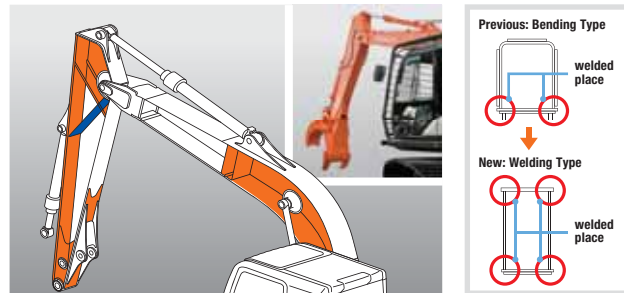
* from ground to reinforce undercover



Durability

Strengthened Front

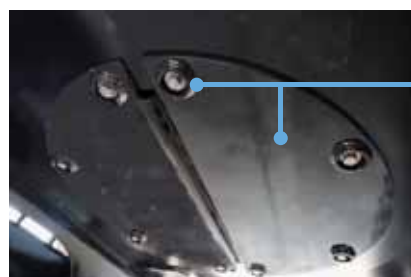
Each part of the front is strengthened according to the operation survey results. The forestry boom is strengthened with thicker plates than a standard boom and by additional welding. Furthermore the reinforced arm is also strengthened with thickened plates and build-up welding.



Reinforced Thick Steel Plates
Added Bulkheads

Reinforced Track Under Cover

Strengthened and increased plate thickness of track under cover are additionally reinforced by bars and bolt guards to protect the hydraulic equipment as well as to drastically reduce deformation by external force.

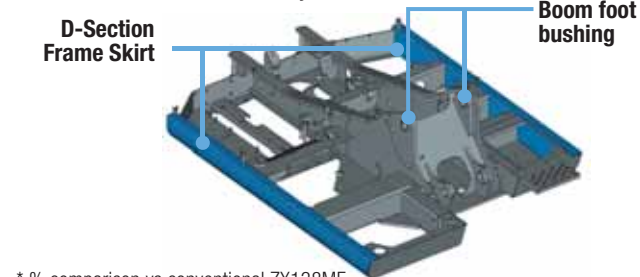


Thicker plate with rib reinforcement bars and bolt guards

Strengthened Upperstructure Frame

43%
*Increase Projected Area Ratio

A D-section skirt is implemented with durable frame to increase rigidity against damage by obstacles, and with the projection aspect ratio enlarged by 43%, the frame strength is improved. Boom foot bushing installed in the brackets at the boom foot (frame side) for improving on durability.



* % comparison vs conventional ZX138MF

Strengthened Travel Motor Cover

Strengthened travel motor cover which offers increased protection to the machine. The travel motor cover is made from a combination of overlap type cover, plates of increased thickness, and thicker rib reinforcement bars.



Thicker plate with rib reinforcement bars

Lower Maintenance

Improved Heat Balance

15%

*Larger Opening Space

In-built high speed engine fan with improved fan pulley ratio remarkably increases airflow volume. Enhancements in engine cover design includes a 15% larger opening space in the side cover allowing better airflow and suction, resulting in a greatly improved cooling performance.

* % comparison vs conventional ZX138MF



Suction Area



Sustainable Dust-Proof Performance

Robust EPDM sponge is chosen as door cover sealing material. Having excellent antiweatherability, over a protracted period of time, reducing the clogging of oil cooler and radiator.



Improved Operability



Needle Type Monitor

Our Needle Type Monitor maintains visibility even in dusty job-site environment.

Basic Functions Succeeded From Conventional Model With Additional Reading Features:

- Engine Failure
- Gate Lock Failure

Operator Safety

Functional Safety

Forestry Cab Guard (Optional)

The forestry cab is protected with a cab guard at front, top and rear for surrounding obstacles. The guard at the top can be opened for emergency evacuation.

Body Guards (Optional)

The body is protected with body guards on the top and both sides. The top guard serves to protect the engine; and side body guards to protect the radiator and hydraulic pumps.

Dust Prevention Nets

The engine and radiator compartments are provided with dust-prevention nets to keep clean inside, reducing the entry of airborne debris and dust.



Door

Engine cover

Enlarge Visibility

Experience higher visibility from all around with an enlarged left bottom side glass window, widened front window and right-side glass window.



SPECIFICATIONS

ENGINE

Model	Isuzu CC-4BG1T
Type	4-cycle water-cooled, direct injection
Aspiration	Turbocharged
No. of cylinders	4
Rated power	
ISO 9249, net	67.0 kW (90 HP) at 2 150 min ⁻¹ (rpm)
SAE J1349, net	67.0 kW (90 HP) at 2 150 min ⁻¹ (rpm)
Maximum torque	347 N·m (35.4 kgf·m) at 1 600 min ⁻¹ (rpm)
Piston displacement ..	4.329 L
Bore and stroke	105 mm X 125 mm
Batteries	2 x 12 V / 55 Ah

HYDRAULIC SYSTEM

Hydraulic Pumps

Main pumps	2 variable displacement axial piston pumps
Maximum oil flow ..	2 x 116 L/min
Pilot pump	1 gear pump
Maximum oil flow ..	36.1 L/min

Hydraulic Motors

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

Relief Valve Settings

Implement circuit	34.3 MPa (350 kgf/cm ²)
Swing circuit	32.3 MPa (330 kgf/cm ²)
Travel circuit	34.3 MPa (350 kgf/cm ²)
Pilot circuit	4.0 MPa (41 kgf/cm ²)
Power boost	36.3 MPa (370 kgf/cm ²)

Hydraulic Cylinders

	Quantity	Bore	Rod diameter
Boom	2	105 mm	70 mm
Arm	1	115 mm	80 mm
Bucket	1	100 mm	70 mm

UPPERSTRUCTURE

Revolving Frame

D-section skirt for resistance to deformation.

Swing Devise

Swash plate piston motor with planetary reduction gear is bathed in oil. Swing circle is single-row. Swing parking brake is spring-set/hydraulic-released disc type.

Swing speed	13.7 min ⁻¹ (rpm)
Swing torque	34.0 kNm (3 470 kgfm)

Operator's Cab

Independent spacious cab, 1 005 mm wide by 1 675 mm high, conforming to ISO* Standards. ISO10262

* International Organization for Standardization

UNDERCARRIAGE

Tracks

Heat-treated connecting pins with dirt seals. Hydraulic (grease) track adjusters with shock-absorbing recoil springs.

Numbers of Rollers and Shoes on Each Side

Upper rollers	2
Lower rollers	6
Track shoes	42
Track guards	4

Traction Device

Each track driven by 2-speed axial piston motor. Parking brake is spring-set/hydraulic-released disc type. Automatic transmission system: High-Low.

Travel speeds	High : 0 to 4.4 km/h
	Low : 0 to 2.5 km/h

Maximum traction force.. 130 kN (13 300 kgf)

Gradeability

SERVICE REFILL CAPACITIES

Fuel tank	280.0 L
Engine coolant	19.0 L
Engine oil	15.8 L
Swing device	3.2 L
Travel device (each side)	4.0 L
Hydraulic system	170.0 L
Hydraulic oil tank	70.0 L

WEIGHTS AND GROUND PRESSURE

Equipped with 4.60 m boom, 3.01 m arm and 0.45 m³ bucket (ISO heaped), 2 400 kg counterweight.

Shoe type	Shoe width	kg	kPa(kgf/cm ²)
Triple grouser	700 mm	14 900	27 (0.28)
Triple grouser	800 mm	15 200	28 (0.29)
Single high grouser	960 mm	15 800	25 (0.25)

Equipped with 4.60 m boom, 3.01 m arm and 0.50 m³ bucket (ISO heaped), 2 400 kg counterweight.

Shoe type	Shoe width	kg	kPa(kgf/cm ²)
Triple grouser	700 mm	14 900	27 (0.28)
Triple grouser	800 mm	15 300	28 (0.29)
Single high grouser	960 mm	15 800	25 (0.25)

WEIGHT: BASIC MACHINE and COMPONENTS

Basic Machine Weight

Weights of the basic machines [including 2 400 kg counterweight and triple grouser shoes, excluding front-end attachment, fuel, hydraulic oil, engine oil and coolant etc.] are:

Shoe width	Weight
Triple grouser 700 mm	12 000 kg
Triple grouser 800 mm	12 300 kg
Single high grouser 960 mm	12 900 kg

Component weights

	Weight
Counterweight	2 400 kg
4.60 m boom (with arm cylinder)	1 030 kg
3.01 m arm (with bucket cylinder)	810 kg
0.45 m ³ bucket	400 kg
0.50 m ³ bucket	410 kg

BUCKET AND ARM DIGGING FORCES

Arm length	3.01 m
Bucket digging force *ISO	104 kN (10 600 kgf)
Bucket digging force SAE : PCSA	91 kN (9 300 kgf)
Arm crowd force *ISO	61 kN (6 200 kgf)
Arm crowd force SAE : PCSA	60 kN (6 100 kgf)

* At power boost

BACKHOE ATTACHMENTS

Boom and arms are of welded, box-section design. Bucket is of welded steel structure. Side clearance adjust mechanism provided on the bucket joint bracket.

Buckets

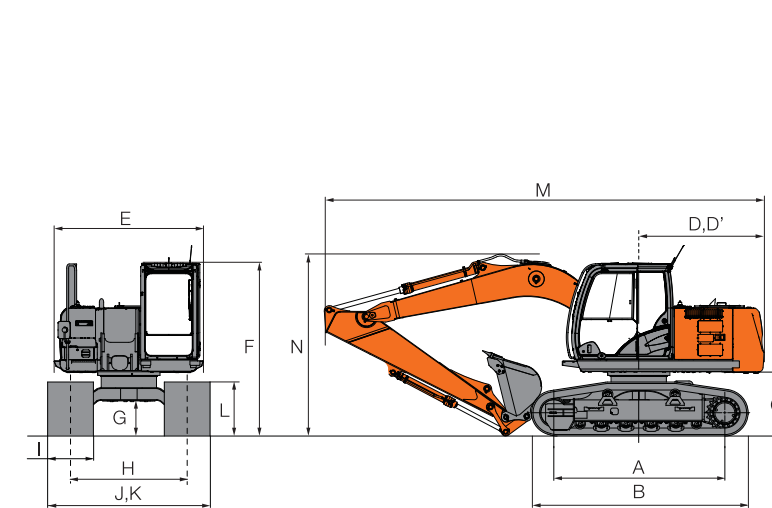
Capacity	Width		No. Of teeth	Weight	Recommendation
	Without side cutters	With side cutters			
0.45 m ³	850 mm	970 mm	5	400 kg	◎
*0.45 m ³	850 mm	970 mm	5	420 kg	◎
0.50 m ³	890 mm	1 010 mm	5	410 kg	○
*0.50 m ³	890 mm	1 010 mm	5	430 kg	○

** Side-pin-type bucket

◎ Suitable for materials with density of 1 800 kg/m³ or less

○ Suitable for materials with density of 1 600 kg/m³ or less

DIMENSIONS

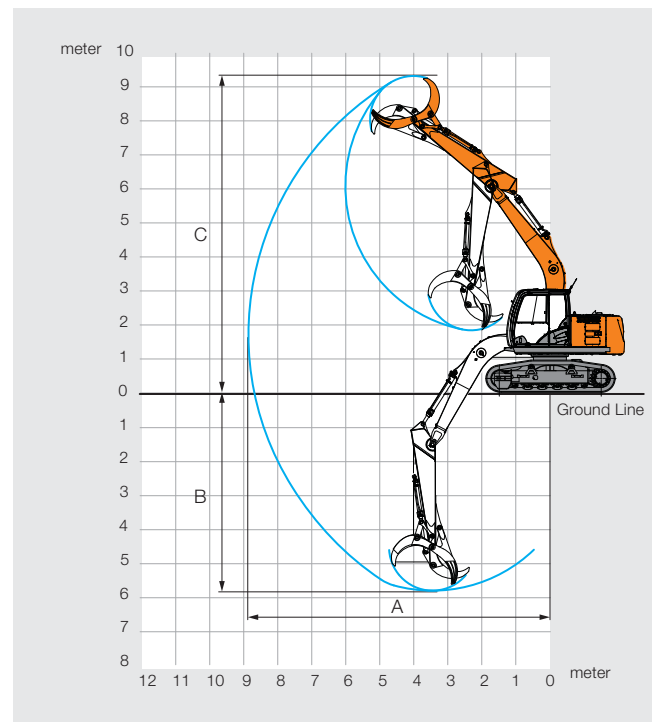


Unit: mm

	ZX138MF-5G		
A Distance between tumbler	2 990		
B Undercarriage length	3 790		
*C Counterweight clearance	1 070		
D Rear-end swing radius	2 190		
D' Rear-end length	2 190		
E Overall width of upperstructure	2 620		
F Overall height of cab	3 020		
*G Min. ground clearance	575		
H Track gauge	2 040		
I Track shoe width	G 700	G 800	SHG 960
J Undercarriage width	2 740	2 840	3 000
K Overall width	2 740	2 840	3 000
*L Track height with triple grouser shoes	940		
M Overall length			
With 3.01 m arm (with Fix grapple)	7 670		
With 3.01 m arm (with 0.50 m ³ bucket)	7 690		
N Overall height of boom			
With 3.01 m arm (with Fix grapple)	3 260		
With 3.01 m arm (with 0.50 m ³ bucket)	3 180		

* Excluding track shoe lug G: Triple grouser shoe
SHG : Single high grouser shoe

WORKING RANGES

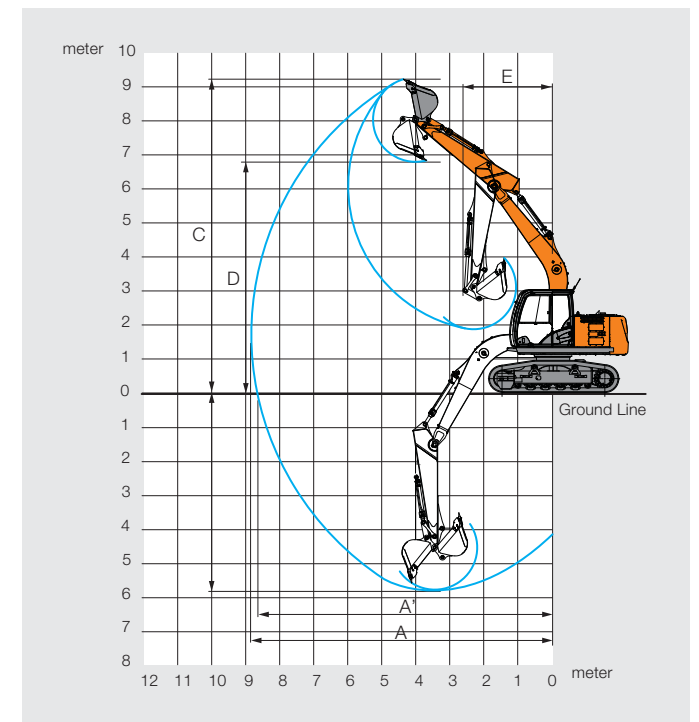


FIX GRAPPLE

Unit:mm

	3.01 m arm (with Fix grapple)
A Max. working reach	8 810
B Max. working depth	5 840
C Max. working height	9 250

Excluding track shoe lug



BACKHOE BUCKET

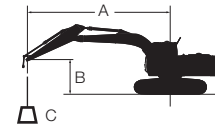
Unit:mm

	3.01 m arm (with 0.50 m ³ bucket)
A Max. digging reach	8 770
A' Max. digging reach (on ground)	8 610
B Max. digging depth	5 800
C Max. cutting height	9 160
D Max. dumping height	6 740
E Min. swing radius	2 620

Excluding track shoe lug

LIFTING CAPACITIES (Without Bucket)

- Notes: 1. Ratings are based on ISO 10567.
 2. Lifting capacity does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.
 3. The load point is the center-line of the bucket pivot mounting pin on the arm.
 4. *Indicates load limited by hydraulic capacity.
 5. 0 m = Ground.
 For lifting capacities, subtract bucket and quick hitch weight from lifting capacities without bucket.



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

ZX138MF-5G

Rating over-front Rating over-side or 360 degrees Unit : kg

Conditions	Load point height m	Load radius										At max. reach		meter		
		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m						
Boom 4.60 m Arm 3.01 m Without Bucket Shoe 800 (700) mm	6.0															
	4.5					*3 110	*3 110	*3 090	2 740 (2 690)					*1 920	*1 920	6.98
	3.0			*5 220	*5 220	*3 970	*3 970	*3 440	2 640 (2 590)					*1 930	1 870 (1 830)	7.42
	1.5			*7 930	7 100 (6 970)	*5 020	3 850 (3 780)	3 730 (3 660)	2 530 (2 470)			*2 190	1 790 (1 760)	*2 030	1 780 (1 740)	7.54
	0 (Ground)			*7 110	6 690 (6 560)	5 600 (5 490)	3 650 (3 570)	3 630 (3 560)	2 430 (2 380)					*2 270	1 820 (1 780)	7.34
	-1.5	*4 450	*4 450	*9 110	6 600 (6 470)	5 500 (5 390)	3 560 (3 490)	3 580 (3 510)	2 380 (2 330)					*2 740	2 010 (1 970)	6.82
	-3.0	*7 670	*7 670	*8 020	6 680 (6 550)	*5 370	3 580 (3 510)							3 710 (3 680)	2 510 (2 450)	5.86
	-4.5															

() = data refer to 700 mm shoe only

EQUIPMENT

Standard and optional equipment may vary by country, so please consult your Hitachi dealer for details.

● : Standard equipment

○ : Optional equipment

	ZX138MF-5G
ENGINE	
Air cleaner double filters	●
Auto idle system	●
Cartridge-type engine oil filter	●
Cartridge-type fuel pre-filter	●
Cartridge-type fuel main filter	●
Dry-type air filter with evacuator valve (with air filter restriction indicator)	●
Dust-Proof indoor net	●
ECO/PWR mode control	●
Engine warm-up device	●
Fan guard	●
Radiator reserve tank	●
Water separator	●
50 A alternator	●
HYDRAULIC SYSTEM	
Auto power lift	●
Control valve with main relief valve	●
High performance full-flow filter	●
Pilot filter	●
Power boost	●
Suction filter	●
One extra port for control valve	●
Work mode selector	●
CAB	
All-weather sound suppressed steel cab	●
AM-FM radio with 2 speakers	●
Ashtray	●
Auto control air conditioner	○
Cab (Center pillar reinforced structure)	●
Drink holder	●
Drink holder with hot & cool	○
Electric double horn	●
Engine shut-off lever	●
Evacuation hammer	●
Floor mat	●
Footrest	●
Front window washer	●
Front window on upper, lower and left side can be opened	●
Hot & cool box	○
Intermittent windshield wipers	●
LED room light	●
OPG top guard Level I (ISO10262) compliant cab	●
Pilot control shut-off lever	●
Rear tray	●
Seat belt	●
Rubber radio antenna	●
Seat : Fabric seat	●

Seat adjustment part : backrest, armrest, height and angle, slide forward/back	●
Short wrist control levers	●
4 fluid-filled elastic mounts	●
24 V cigarette lighter	●

MONITOR SYSTEM	
Alarm buzzers: Engine overheat	●
Meters: Hour meter, trip-meter, engine coolant temperature gauge and fuel gauge	●
Pilot lamps: Engine preheat, auto-idle, and attachment mode	●
Warning lamps: Alternator charge, engine oil pressure, engine overheat, air filter restriction and minimum fuel level	●

LIGHTS	
Additional cab roof front lights	○
2 working lights	●

UPPER STRUCTURE	
Fuel level float	●
Gap filled radiator	●
Hydraulic oil level gauge	●
Tropical cover	●
Side bumper & cab guard bracket	●
Cab guards & Body guards	○
Rear view mirror (right & left side)	●
Swing parking brake	●
Tool box	●
6.0 mm reinforced undercover	●
Utility space	●
With net door and cover	●
2 400 kg counterweight	●
2 x 55 Ah batteries	●

UNDERCARRIAGE	
High & wide track	●

Bolt-on sprocket	●
Lower rollers	●
Reinforced idler bracket	●
Reinforced track links with pin seals	●
Travel parking brake	●
Hydraulic track adjuster	●
Reinforced upper rollers	●
9.0 mm reinforced track undercover	●
Reinforced travel motor covers	●
4 track guards (each side)	●
Skidding bar	○
700 mm triple grouser shoes	○
800 mm triple grouser shoes	●
960 mm single high grouser shoes	○

FRONT ATTACHMENTS	
Centralized lubrication system	●
Dirt seal on all bucket pins	●
Flanged pin	●
HN bushing	●
Reinforced resin thrust plate	●
Link A	●
Link B	●
WC (tungsten-carbide) thermal spraying	●
Fixed grapple	○
0.45 m³ bucket (ISO heaped)	○
0.45 m³ bucket (ISO heaped) (side pin type for Point tooth)	○
0.5 m³ bucket (ISO heaped)	●
0.5 m³ bucket (ISO heaped) (side pin type for Point tooth)	○
4.60 m reinforced boom	●
3.01 m reinforced arm (with grapple bracket)	●

MISCELLANEOUS	
Lockable fuel refilling cap	●
Lockable machine covers	●
Onboard information controller	●
Skid-resistant tapes, plates and handrails	●
Standard tool kit	●
Travel direction mark on track frame	●
Global e-Service	●

These specifications are subject to change without notice. Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features. Before use, read and understand the Operator's Manual for proper operation.