

ZAXIS-6 series

HITACHI

Reliable solutions

# ZAXIS48U



## HYDRAULIC EXCAVATOR

Model code : ZX48U-6

Engine rated power : 29.1 kW (ISO14396)

Operating weight : Cab 4 580 – 4 960 kg

Canopy 4 450 – 4 830 kg

Bucket ISO heaped : 0.10 – 0.17 m<sup>3</sup>

# SPECIFICATIONS

## ENGINE

Model .....	4TNV88C
Type .....	4-cycle water-cooled, common rail direct injection
Aspiration.....	Coold EGR
Aftertreatment .....	Muffler filter
No. of cylinders .....	4
Rated power	
ISO 14396 .....	29.1 kW at 2 400 min <sup>-1</sup>
ISO 9249, net .....	27.1 kW at 2 400 min <sup>-1</sup>
SAE J1349, net .....	27.1 kW at 2 400 min <sup>-1</sup>
Maximum torque .....	135.8 Nm at 1 560 min <sup>-1</sup>
Piston displacement .....	2.189 L
Bore and stroke .....	88 mm x 90 mm
Battery .....	1 x 12 V / 72 Ah

## HYDRAULIC SYSTEM

### Hydraulic Pumps

Main pumps .....	1 variable displacement axial piston pump
Maximum oil flow .....	1 x 120 L/min
Pilot pump .....	1 gear pump
Maximum oil flow .....	12.0 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/cm <sup>2</sup> )
Swing circuit .....	18.3 MPa (187 kgf/cm <sup>2</sup> )
Travel circuit .....	24.5 MPa (250 kgf/cm <sup>2</sup> )
Pilot circuit .....	5.9 MPa (60.2 kgf/cm <sup>2</sup> )

### Hydraulic Cylinders

	Quantity	Bore	Rod diameter	Stroke
Boom	1	90 mm	55 mm	699 mm
Arm	1	80 mm	50 mm	698 mm
Bucket	1	70 mm	40 mm	551 mm
Blade	1	105 mm	50 mm	140 mm
Boom swing	1	90 mm	50 mm	666 mm

## UPPERSTRUCTURE

### Revolving Frame

D-section frame for resistance to deformation.

### Swing Device

Axial 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 .....	9.0 min <sup>-1</sup> (rpm)
Swing torque .....	8.6 kNm (877 kgfm)

### Operator's Cab

Independent spacious cab, 1 049 mm wide by 1 611 mm high, conforming to ISO\* Standards. Reinforced glass windows on 4 sides for visibility. Front windows (upper and lower) can be opened. Reclining seat.

\* International Organization for Standardization

## UNDERCARRIAGE

### Tracks

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

### Numbers of Rollers on Each Side

Upper roller .....	1
Lower rollers .....	4

### Travel 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 4.2 km/h
	Low : 0 to 2.5 km/h

Maximum traction force ... 38.3 kN (3 905 kgf)

Gradeability .....

58 % (30 degree) continuous

## SOUND LEVEL

Sound level in cab according to ISO 6396 ..... LpA 75 dB(A)

External sound level according to ISO 6395 and

EU Directive 2000/14/EC ..... LwA 96 dB(A)

## SERVICE REFILL CAPACITIES

Fuel tank .....	70.0 L
Engine coolant .....	4.7 L
Engine oil .....	8.6 L
Travel device (each side) .....	0.9 L
Hydraulic system .....	66.0 L
Hydraulic oil tank .....	42.0 L

## WEIGHTS AND GROUND PRESSURE

### Operating Weight and Ground Pressure

#### 4-PILLAR CANOPY

Shoe type	Shoe width	Arm length	kg	kPa (kgf/cm <sup>2</sup> )
Rubber shoe	400 mm	1.38 m	4 450	26 (0.26)
		1.69 m	4 660*	27 (0.27)*
Grouser shoe	400 mm	1.38 m	4 560	26 (0.27)
		1.69 m	4 770*	27 (0.28)*
Pad crawler shoe	400 mm	1.38 m	4 620	27 (0.27)
		1.69 m	4 830*	28 (0.28)*

Including 0.14 m<sup>3</sup> (ISO heaped), bucket weight (109 kg).

\*Including 0.11 m<sup>3</sup> (ISO heaped), bucket weight (96 kg), additional counterweight (200 kg)

#### CAB

Shoe type	Shoe width	Arm length	kg	kPa (kgf/cm <sup>2</sup> )
Rubber shoe	400 mm	1.38 m	4 580	26 (0.27)
		1.69 m	4 790*	27 (0.28)*
Grouser shoe	400 mm	1.38 m	4 690	27 (0.28)
		1.69 m	4 900*	28 (0.29)
Pad crawler shoe	400 mm	1.38 m	4 750	27 (0.28)
		1.69 m	4 960*	29 (0.29)

Including 0.14 m<sup>3</sup> (ISO heaped), bucket weight (109 kg).

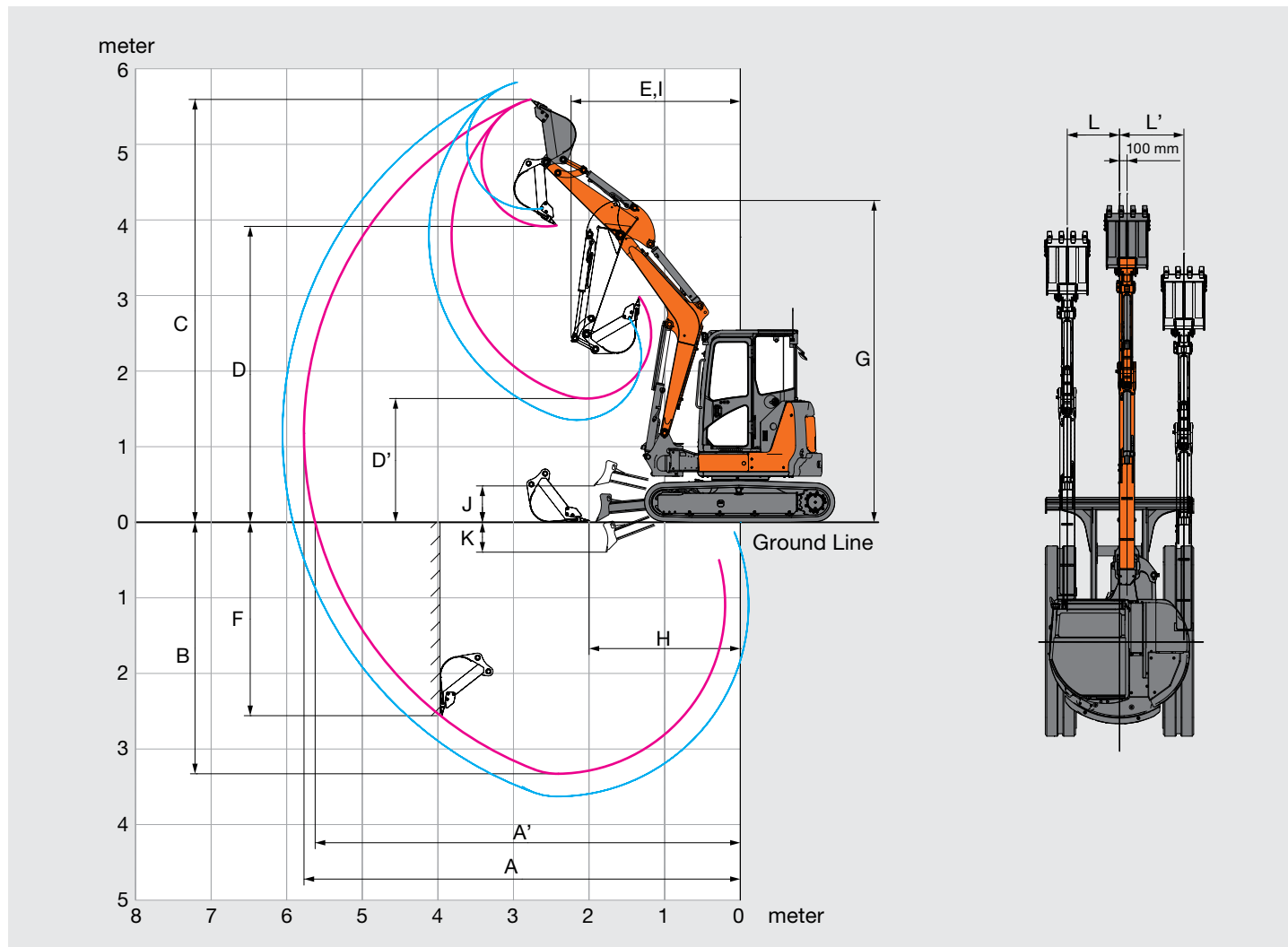
\*Including 0.11 m<sup>3</sup> (ISO heaped), bucket weight (96 kg), additional counterweight (200 kg)

## BUCKET AND ARM DIGGING FORCE

Arm length	1.38 m	1.69 m
Bucket digging force ISO	32.1 kN (3 270 kgf)	
Bucket digging force SAE : PCSA	27.9 kN (2 850 kgf)	
Arm crowd force ISO	24.0 kN (2 450 kgf)	21.0 kN (2 140 kgf)
Arm crowd force SAE : PCSA	22.8 kN (2 330 kgf)	20.1 kN (2 050 kgf)

# SPECIFICATIONS

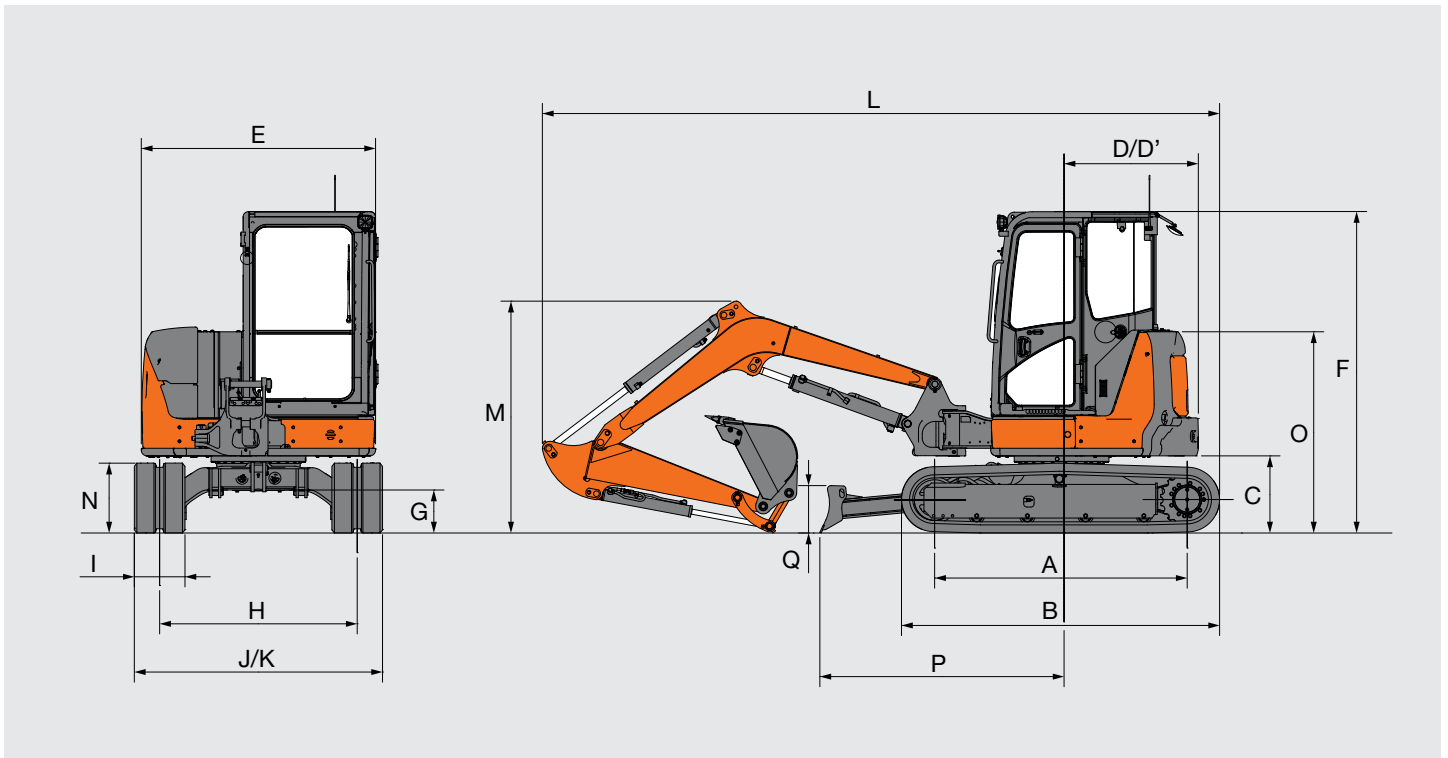
## WORKING RANGES



Unit: mm

Arm length	1.38 m	1.69 m
A Max. digging reach	5 760	6 060
A' Max. digging reach (on ground)	5 610	5 920
B Max. digging depth	3 320	3 630
C Max. cutting height	5 590	5 820
D Max. dumping height	3 910	4 140
D' Min. dumping height	1 630	1 350
E Min. swing radius	2 240	2 370
F Max. vertical wall digging depth	2 550	2 880
G Front height at Min. swing radius	4 250	4 250
H Min. level crowding distance	2 000	1 870
I Working radius at Min. swing radius (Max. boom-swing angle)	1 750	1 860
J Blade bottom highest position above ground	460	460
K Blade bottom lowest position above ground	365	365
L/L' Offset distance (Max. boom-swing angle)	690 / 850	690 / 850
Max. boom-swing angle (deg.)	80 / 60	80 / 60

## DIMENSIONS



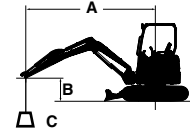
Unit: mm

	ZAXIS 48U
A Distance between tumblers	2 000 (1 990)
B Undercarriage length	2 500 (2 490)
*C Counterweight clearance	610 (590)
D Rear-end swing radius	980 (1 080 with additional counterweight)
D' Rear-end length	980 (1 080 with additional counterweight)
E Overall width of upperstructure	1 850
F Overall height of cab	2 530
*G Min. ground clearance	340 (320)
H Track gauge	1 560
I Track shoe width	400
J Undercarriage width	1 960
K Overall width (Blade width)	1 960
L Overall length	
With 1.38 m arm	5 350
With 1.69 m arm	5 390
*M Overall height of boom	
With 1.38 m arm	1 840
With 1.69 m arm	2 035
N Track height	550 (530)
O Engine cover-height	1 590 (1 570)
P Horizontal distance to blade	1 910
Q Blade height	375

\* Excluding track shoe lug    Data in ( ) are dimensions of grouser shoe.

# MACHINE CAPACITIES

- 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.



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

To determine lifting capacities, apply "Rating over-side or 360 degrees" machine capacities from table with "Blade above Ground" and deduct weight of installed attachment and quick hitch.

## ZAXIS 48U Cab Version, Blade above Ground

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.69 m Additional counterweight 200 kg Rubber shoe 400 mm	3.0							*0.98	0.82			0.74	0.60	4.80
	2.0					*1.44	1.22	0.98	0.79	0.68	0.55	0.66	0.53	5.13
	1.0					1.44	1.13	0.93	0.75	0.67	0.54	0.63	0.51	5.21
	0 (Ground)					1.39	1.08	0.91	0.72	0.66	0.53	0.65	0.52	5.04
	-1.0	*1.92	*1.92	*2.58	2.07	1.38	1.07	0.90	0.71			0.74	0.59	4.60
	-2.0			*2.63	2.12	1.41	1.09					1.00	0.80	3.76

## ZAXIS 48U Cab Version, Blade on Ground

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.69 m Additional counterweight 200 kg Rubber shoe 400 mm	3.0							*0.98	0.82			*0.85	0.60	4.80
	2.0					*1.44	1.22	*1.14	0.79	*1.01	0.55	*0.86	0.53	5.13
	1.0					*2.01	1.13	*1.35	0.75	*1.07	0.54	*0.92	0.51	5.21
	0 (Ground)					*2.25	1.08	*1.47	0.72	*1.08	0.53	*1.06	0.52	5.04
	-1.0	*1.92	*1.92	*2.58	2.07	*2.12	1.07	*1.40	0.71			*1.09	0.59	4.60
	-2.0			*2.63	2.12	*1.60	1.09					*1.07	0.80	3.76

## ZAXIS 48U Cab Version, Blade above Ground

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.38 m Rubber shoe 400 mm	3.0					*1.19	1.17	0.91	0.73			0.76	0.61	4.47
	2.0					1.39	1.09	0.88	0.71			0.66	0.53	4.83
	1.0					1.30	1.01	0.85	0.68			0.63	0.50	4.91
	0 (Ground)					1.26	0.98	0.83	0.65			0.65	0.52	4.73
	-1.0			2.64	1.90	1.27	0.98	0.83	0.65			0.76	0.61	4.25
	-2.0			*2.05	1.96	1.30	1.01					*1.10	0.89	3.28

## ZAXIS 48U Cab Version, Blade on Ground

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.38 m Rubber shoe 400 mm	3.0					*1.19	1.17	*1.11	0.73			*1.06	0.61	4.47
	2.0					*1.66	1.09	*1.25	0.71			*1.07	0.53	4.83
	1.0					*2.16	1.01	*1.43	0.68			*1.14	0.50	4.91
	0 (Ground)			*3.06	1.90	*2.28	0.98	*1.50	0.65			*1.17	0.52	4.73
	-1.0			*2.05	1.96	*2.04	0.98	*1.34	0.65			*1.19	0.61	4.25
	-2.0					*1.31	1.01					*1.10	0.89	3.28

**ZAXIS 48U 4-Pillar Canopy Version, Blade above Ground**

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.69 m Additional counterweight 200 kg Rubber shoe 400 mm	3.0							0.97	0.79			0.71	0.58	4.80
	2.0					*1.44	1.18	0.94	0.76	0.66	0.53	0.63	0.51	5.13
	1.0					1.39	1.09	0.90	0.72	0.64	0.52	0.60	0.49	5.21
	0 (Ground)					1.34	1.04	0.87	0.69	0.63	0.51	0.63	0.50	5.04
	-1.0	*1.92	*1.92	*2.58	1.99	1.33	1.03	0.86	0.68			0.71	0.57	4.60
	-2.0			*2.63	2.04	1.35	1.05					0.97	0.77	3.76

**ZAXIS 48U 4-Pillar Canopy Version, Blade on Ground**

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.69 m Additional counterweight 200 kg Rubber shoe 400 mm	3.0							*0.98	0.79			*0.85	0.58	4.80
	2.0					*1.44	1.18	*1.14	0.76	*1.01	0.53	*0.86	0.51	5.13
	1.0					*2.01	1.09	*1.35	0.72	*1.07	0.52	*0.92	0.49	5.21
	0 (Ground)					*2.25	1.04	*1.47	0.69	*1.08	0.51	*1.06	0.50	5.04
	-1.0	*1.92	*1.92	*2.58	1.99	*2.12	1.03	*1.40	0.68			*1.09	0.57	4.60
	-2.0			*2.63	2.04	*1.60	1.05					*1.07	0.77	3.76

**ZAXIS 48U 4-Pillar Canopy Version, Blade above Ground**

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.38 m Rubber shoe 400 mm	3.0					*1.19	1.13	0.87	0.71			0.73	0.59	4.47
	2.0					1.34	1.05	0.85	0.68			0.63	0.51	4.83
	1.0					1.25	0.97	0.81	0.65			0.60	0.48	4.91
	0 (Ground)					1.21	0.94	0.79	0.63			0.63	0.50	4.73
	-1.0			2.53	1.83	1.21	0.94	0.79	0.63			0.73	0.58	4.25
	-2.0			*2.05	1.88	1.25	0.97					1.09	0.86	3.28

**ZAXIS 48U 4-Pillar Canopy Version, Blade on Ground**

Rating over-front Rating over-side or 360 degrees Unit : 1 000 kg

Conditions	Load point height m	Load radius										At max. reach		
		1.0 m		2.0 m		3.0 m		4.0 m		5.0 m				meter
Boom 2.68 m Arm 1.38 m Rubber shoe 400 mm	3.0					*1.19	1.13	*1.11	0.71			*1.06	0.59	4.47
	2.0					*1.66	1.05	*1.25	0.68			*1.07	0.51	4.83
	1.0					*2.16	0.97	*1.43	0.65			*1.14	0.48	4.91
	0 (Ground)					*2.28	0.94	*1.50	0.63			*1.17	0.50	4.73
	-1.0			*3.06	1.83	*2.04	0.94	*1.34	0.63			*1.19	0.58	4.25
	-2.0			*2.05	1.88	*1.31	0.97					*1.10	0.86	3.28

# EQUIPMENT

● : Standard equipment

○ : Optional equipment

## ENGINE

Air cleaner double filters	○
Alternator 12V - 55 A	●
Auto idle system	●
Cartridge-type engine oil filter	●
Cartridge-type fuel main filter	●
Dust-proof indoor net	○
ECO/PWR mode control	●
Electrical fuel feed pump	●
Fuel cooler	●
Fuel pre-filter with water separator	●
Radiator reserve tank	●

## HYDRAULIC SYSTEM

Boom anti-drift valve	●
Full-flow filter	●
Hydraulic pilot type control levers	●
Pilot control shut-off lever with neutral engine start system	●
Pilot filter	●
Suction filter	●
Swing parking brake	●
Travel parking brake	●
Two-speed travel system	●
Valve for extra piping	●

## CAB

Air conditioner*	●
AM/FM radio	●
Anti-slip plate	●
Armrest	●
Defroster	●
Drink holder	●
Electric horn	●
Floor mat	●
Heater	●
Retractable seat belt	●
ROPS/OPG cab	●
Spare power supply 12V (inside)	●
Spare power supply 12V (outside)	○
Sun visor (front window (rigid type))	○
Suspension seat with reclining (fabric)	●
Window washer	●
Wiper	●

## 4-PILLAR CANOPY

Anti-slip plate	●
Armrests	●
Drink holder	●
Electric horn	●
Floor mat	●
Retractable seat belt	●
ROPS/OPG canopy	●
Spare power supply 12V (inside)	○
Suspension seat with reclining (vinyl)	●

## LIGHTS

Additional cab roof front lights	○
Additional 4-pillar canopy roof front lights	○
2 working lights	●
3 working LED lights (Boom x 1, cab or 4-pillar canopy roof front x 2)	○

## UPPER STRUCTURE

Auxiliary flow rate selector	○
Auxiliary function lever (AFL)	○
Auxiliary overload relief valve	○
Batteries 1 x 70 Ah	●
Batteries 1 x 92 Ah***	○
Battery disconnect switch	●
Electric refuel pump	○
GSM mobile communication system***	○
Pilot accumulator	○
Rearview mirror	●
Tool box	●
200 kg additional counterweight	○

## UNDERCARRIAGE

400 mm grouser shoe	○
400 mm pad crawler shoe	○
400 mm rubber shoe	●

## FRONT ATTACHMENTS

Assist piping	○
Extra piping	●
HN bushing	●
Hose rupture valve for arm	●
Hose rupture valve for boom	●
1.38 m arm	○
1.69 m arm	●

## MISCELLANEOUS

Global e-Service***	○
Theft deterrent system**	○

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

\* Contains fluorinated greenhouse gases, Refrigerant type: HFC-134a, GWP: 1430, Amount: 0.65 kg, CO<sub>2</sub>e: 0.93 ton.

\*\* Hitachi Construction Machinery cannot be held liable for theft, any system will just minimize the risk of theft.

\*\*\* It is possible to obtain information by connecting to Global e-service with a Hitachi genuine mobile terminal.