

SUPER EXCEED

HD512E

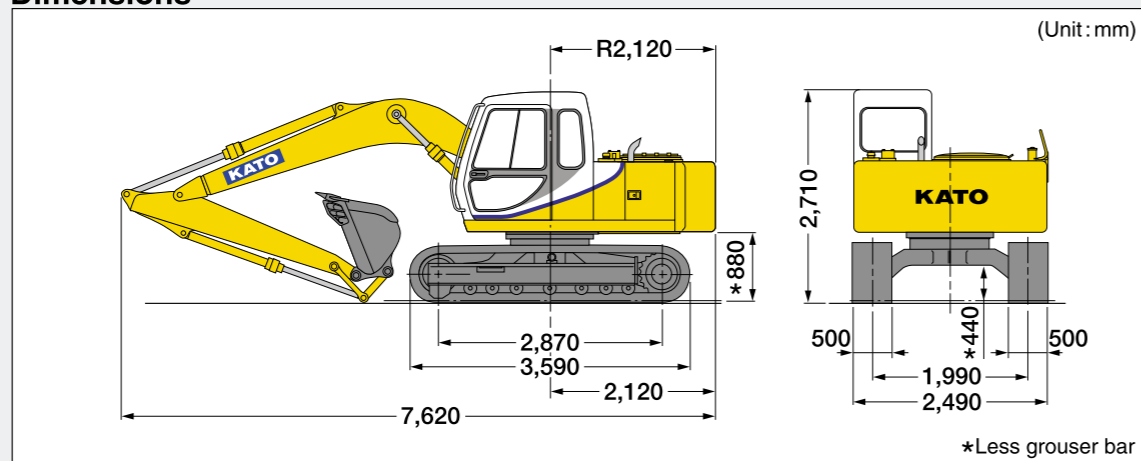
Standard Equipment

- New APC mode
- New auto-slow • One-touch-slow
- Multi-mode display monitor
- Adjustable monitor alarm
- 2 service hour meter
- 3 traveling mode
- Automatic travel speed change
- Spring assisted pull-up front window
- 6 points viscous damping cab suspension
- Multi position operator's seat
- Adjustable seat suspension
- Adjustable speed window wiper
- Rear emergency escape window
- Cabin light connected to cabin door
- 2 working lights (Upper front right side & Boom left side)
- Boom holding valve
- Arm holding valve
- Digging force booster (High power)
- Swing shockless valve
- Automatic swing parking brake
- Automatic travel parking brake
- One free service circuit for attachments
- Rear view mirror (right side)
- Front window washer (2 sprays)

Optional Equipment

- Tinted transparent hatch
- Seat belt
- Automatic climate control air conditioner
- Hot & cool box contained with AC
- Cabin heater
- Auto tuning AM/FM radio with clock
- 2 speaker stereo
- Working light (Cab left side)
- Working light (Boom right side)
- Working light (Cab right side)
- Cab access step
- Optional piping
- Cab front half guard
- Cab front full guard
- Cab head guard
- Electronic horn
- Cabin fan
- Swing warning light
- Travel alarm
- Refueling pump
- Air cleaner, double element
- Low temperature spec
- Tool set
- Track guard, 1 pc each side
- Track guard, 2 pcs each side

Dimensions



Address inquiries to :

• NOTE : Illustrations may include optional equipment. KATO products and specifications are subject to improvements and changes without notice.

KATO

QUALITY & EXPERIENCE
SINCE 1895



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KATO

FULLY HYDRAULIC EXCAVATOR

SUPER EXCEED

HD512E
Special



Bucket capacity : 0.25m³ - 0.60m³ (ISO)
Engine output : 66kW/2,200min⁻¹ (90PS/2,200rpm) (ISO, Net)
Operating weight : 11,900kg

**The HD512E excavator boldly debuts,
boasting significant new advances!**



Technical Specifications (HD512E)



ENGINE

Model	Mitsubishi 4D34-T, 4 cycle turbo charged diesel engine
Number of cylinders	4
Bore & Stroke	104mm × 115mm
Total displacement	3.91 L
Rated output	66kW/2,200min ⁻¹ (90PS/2,200rpm) (ISO, Net)
Max. torque	353N·m/1,400min ⁻¹ (36.0kgf·m/1,400rpm) (ISO, Net)
Compression ratio	16.5:1
Combustion system	Direct injection
Cooling system	Pressurized water circulated by a centrifugal pump with thermostat
Lubrication system	Pressurized oil fed by a gear pump through full-flow and bypass cartridge filter.
Starter	Electric, 24V-5kW
Generator	Alternator, 24V-35A
Governor	Mechanical
Air cleaner	Dry type filter



SWING SYSTEM

The hydraulic gear-driven swing is powered by an axial piston motor with shockless valve that is flange-connected to a planetary reduction unit. It rotates 360° continuously on the single row-ball bearing that has an integral, internally cut swing gear, and is totally enclosed to prevent the ingress of mud and water.

Brake A hydraulic brake that locks automatically when the swing control lever is in the neutral position and a mechanical parking brake which is applied when the safety lock lever is pulled backwards, the engine is turned off or the swing control lever is in the neutral position.

Lubrication Completely housed and grease bathed

Max. swing speed 12.5min⁻¹(12.5rpm)

Tail swing radius 2,120mm

Min. front swing radius 2,390mm



●Engine room (Equipped with air conditioner-option)



TRAVEL SYSTEM

Spring-applied idlers protect the drives from shock. Adjust cylinder is provided for easy arrangement of the track tensioning. An all welded undercarriage frame gives clog-free clearance, and the drive motors are neatly housed inside the track frame. The crawler tracks with interchangeable shoes are supported by 7 lower rollers and 1 upper roller on each side.

Traveling motors Independent axial piston motor with reduction for each side

Brakes Independent disk parking brakes for each side, applied automatically when the travel levers are in the neutral position.

Track shoes 44 each side

Track adjustment Grease cylinders with recoil springs

Lubrication Sealed-for-life rollers and front idlers with floating seals

Travel speed High 0~5.5km/h
Medium 0~3.5km/h
Low 0~2.5km/h

Gradeability 70% (35°)

Max. drawbar pull 91.2kN (9,300kgf)

Ground clearance (less grouser bar) 440mm

Track length 3,590mm



BOOM, ARM AND BUCKET

The boom and arm are of all-welded, steel box section type with reinforced pin joints. Bucket is fabricated from high tensile strength steel.

Boom cylinders Two, double acting
Bore & Stroke 105mm × 1,080mm

Arm cylinder One, double acting
Bore & Stroke 120mm × 1,215mm

Bucket cylinder One, double acting
Bore & Stroke 95mm × 995mm

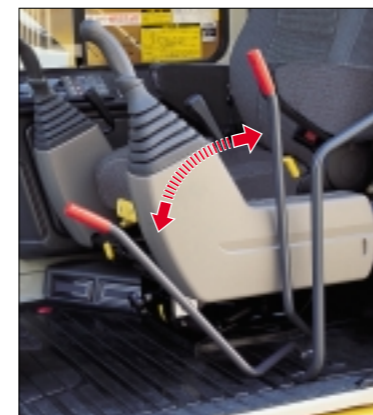
Lubrication Grease nipples, with centralized greasing for remote points

Bucket digging force 88.3kN (9,000kgf)
(High power) 98.1kN (10,000kgf)

Arm digging force 63.7kN (6,500kgf)
(High power) 70.6kN (7,200kgf)
(High power can be used with STD arm only)



●Radiator with dust screen



●Safety lock lever



HYDRAULIC SYSTEM

Two pumps are controlled by the Kato developed "APC" (Automatic Power Control) system, which senses where power is needed and automatically adjusts the pressure and flow-rate of the pump to match the work load. New "APC" system enables pump output to be utilized to the full with minimum fuel consumption. The adoption of joint circuit enables dual speed for boom derricking and arm extension/ retraction.

Pumps Variable double piston pump and gear pump

Max. discharge flow 2×120 L/min.

Max. discharge pressure 29.4MPa (300kgf/cm²)

Max. discharge pressure (travel circuit only) 32.9MPa (335kgf/cm²)

Oil filtration Full-flow filter with replaceable element, a drain cartridge filter, a pilot line filter and a suction strainer

Control valves 3+4 section multiple control valves (with service port)

Pilot pump Gear type

Oil cooler Finned tube, forced ventilation

Pressure relief valves Primary and secondary on each circuit



REFILLING CAPACITY

Fuel tank	250 L
Cooling system	17 L
Engine oil	17 L
Track drives	2×3.0 L
Swing drive	2.5 L
Hydraulic oil tank (level)	74 L
(system)	155 L



●Hot & cool box contained with AC (option)



CAB & CONTROLS

The all-weather sound suppressed, 1,000mm wide pressed steel cab is six point viscous mounted and has plenty of leg room. All windows are made of tinted safety glass. The front window can be raised and slide back so that it fits flush with the ceiling to provide improved visibility and ventilation. The cloth-covered, fully adjustable seat is provided. Operating conditions can be seen at a glance on safety monitor.

Right hand lever Controls the boom & bucket

Inner right hand lever (with foot pedal) Controls the right hand track

Inner left hand drive (with foot pedal) Controls the left hand track

Left hand lever Controls the arm & swing

Pilot control Travel, boom, arm, bucket and swing

Engine throttle Electric "Accel dial"

Meter & gauges Hour meter, water temperature and fuel level

Monitor display Engine oil pressure, engine oil filter, hydraulic oil filter, hydraulic oil temperature, water temperature, water level, fuel level, battery charge, APC monitor and air cleaner.

Indicator lamps Caution lamp & Engine preheater indicator lamp

Working lights Provided on the boom left side and mounted on the frame

Lubrication chart Inside the tool box



WEIGHT

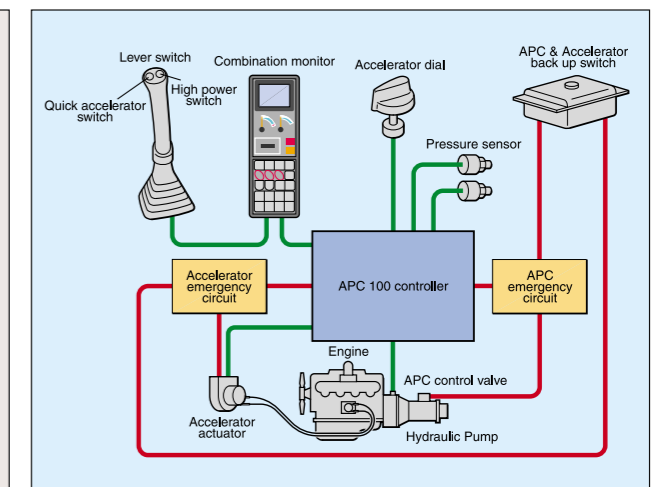
In standard figure, with the 2.5m arm, 500mm grouser shoes and 0.50m³ (ISO) bucket.

Operating weight 11,900kg

Ground pressure 37.3kPa (0.38kgf/cm²)



●Combination monitor

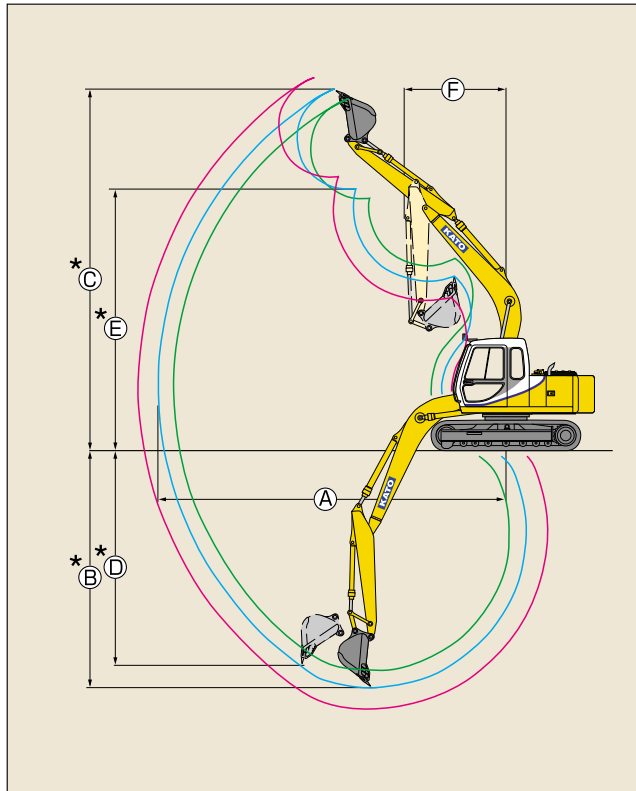


●"APC" system



●Air conditioner control panel (option)

Working Ranges (HD512E)



Range	Arm	Short Arm (2.1m)	STD Arm (2.5m)	Long Arm (3.0m)
A-Max. digging radius		7,930	8,300	8,760
*B-Max. digging depth		5,220	5,620	6,130
*C-Max. digging height		8,380	8,610	8,870
*D-Max. vertical wall		4,670	5,070	5,470
*E-Max. dumping height		6,010	6,240	6,520
F-Min. swing radius		2,410	2,390	2,470

(Unit : mm)
*Less grouser bar.

Bucket

Type of bucket		Backhoe bucket							Dredging bucket	Slope forming bucket	Grab bucket	Ejector bucket	Rock bucket	Ripper
Bucket capacity	m ³ , ISO	0.25	0.35	0.40	0.45	0.50	0.55	0.60	0.40	—	0.30 (struck)	0.30	0.25	—
Bucket width	w/o side cutters, mm	540	695	785	875	910	1,000	1,090	2,000	1,800	750	480	680	—
	with side cutters, mm	630	785	875	965	1,000	1,090	1,180	300	1,000	—	—	790	—
Bucket weight	kg	290	340	370	390	420	440	460	420	620	550	380	615	230
Number of bucket teeth		3	4	4	4	5	5	5	2	—	4+4	3	5	1
Shape of bucket														
Standard boom +	Short arm	●	●	●	●	●	●	□	●	○	●	●	○	○
	Standard arm	●	●	●	●	●	▲	□	●	○	●	●	○	○
	Long arm	●	●	●	▲	▲	×	×	▲	○	×	●	×	×
	Extension arm	●	▲	×	×	×	×	×	×	×	×	●	×	×

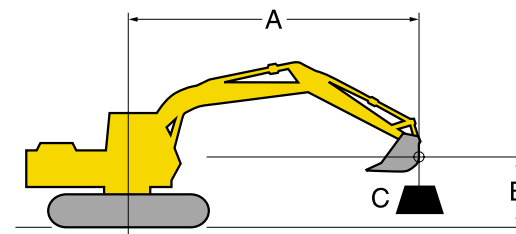
● General purpose ▲ Light work ○ Rock digging □ Loading ○ Usable × Unusable *Usable only when 700mm shoe is fitted on.
● Yellow colored area means standard.

Track Shoes

Type of shoes	Grouser shoe			Flat shoe	Triangle shoe	
Shoe width	mm	500	600	700	500	700
Overall width	mm	2,490	2,590	2,690	2,490	2,690
Ground pressure	kPa (kgf/cm ²)	37.3 (0.38)	31.4 (0.32)	27.5 (0.28)	38.2 (0.39)	28.4 (0.29)
Net weight change	kg	S.T.D	+170	+480	+410	+720

● Yellow colored area means standard.

Lifting Capacities (HD512E)



A : REACH FROM SWING CENTER
B : LOAD POINT HEIGHT
C : LIFTING CAPACITIES

: OVER FRONT
 : OVER SIDE OR 360°

HD512E 500mm Shoe, 4.65m Boom, 2.10m Arm, 0.50m³ Bucket (420kg) Unit: 1,000kg

LOAD POINT HEIGHT B (m)	LOAD RADIUS A (m)												MAXIMUM LOAD RADIUS				
	2.00		3.00		4.00		5.00		6.00		7.00		●	○	m		
7.00															* 1.70	* 1.70	5.27
6.00															* 1.53	* 1.53	6.25
5.00								* 2.44	* 2.44						* 1.45	1.45	6.90
4.00					* 2.70	* 2.70	* 2.64	2.57	2.65	1.84					* 1.42	1.26	7.32
3.00			* 4.60	* 4.60	* 3.52	* 3.52	* 3.06	2.47	2.61	1.79					* 1.43	1.16	7.57
2.00					* 4.54	3.33	3.44	2.35	2.54	1.73	1.93	1.30			* 1.47	1.11	7.66
1.00					4.77	3.13	3.32	2.23	2.47	1.67	1.90	1.27			* 1.54	1.10	7.60
0.00					4.65	3.02	3.23	2.15	2.41	1.62	1.88	1.25			* 1.66	1.15	7.38
-1.00					4.60	2.98	3.18	2.11	2.38	1.59					* 1.84	1.26	6.99
-2.00	* 5.98	* 5.98			7.92	4.84	4.61	2.99	3.18	2.10	2.39	1.59			* 2.14	1.48	6.39
-3.00	* 6.94	* 6.94			* 7.32	4.92	4.66	3.04	3.22	2.14					* 2.61	1.94	5.49
-4.00					* 6.11	5.06	* 4.70	3.14									

HD512E 500mm Shoe, 4.65m Boom, 2.50m Arm, 0.50m³ Bucket (420kg) Unit: 1,000kg

LOAD POINT HEIGHT B (m)	LOAD RADIUS A (m)												MAXIMUM LOAD RADIUS				
	2.00		3.00		4.00		5.00		6.00		7.00		●	○	m		
7.00															* 1.38	* 1.38	5.82
6.00															* 1.26	* 1.26	6.70
5.00								* 2.09	* 2.09	* 2.34	1.88				* 1.19	1.19	7.30
4.00								* 2.32	* 2.32	* 2.39	1.86				* 1.17	1.14	7.71
3.00			* 3.72	* 3.72	* 3.07	* 3.07	* 2.76	2.50	* 2.61	1.81	1.98	1.34			* 1.18	1.05	7.94
2.00					* 4.10	3.40	* 3.33	2.37	2.55	1.74	1.94	1.30			* 1.21	1.00	8.03
1.00					4.83	3.18	3.34	2.25	2.47	1.67	1.90	1.27			* 1.28	1.00	7.97
0.00					* 4.07	4.07	4.66	3.03	3.23	2.15	2.41	1.61	1.86	1.23	* 1.38	1.03	7.76
-1.00					* 6.28	4.74	4.58	2.97	3.17	2.09	2.36	1.57	1.84	1.21	* 1.54	1.12	7.40
-2.00	* 4.93	* 4.93			7.84	4.77	4.57	2.95	3.15	2.07	2.35	1.56			* 1.78	1.30	6.83
-3.00	* 7.75	* 7.75			* 7.70	4.83	4.60	2.98	3.17	2.09	2.38	1.58			* 2.21	1.63	6.02
-4.00	* 9.13	* 9.13			* 6.72	4.95	4.69	3.06	3.25	2.17							

HD512E 500mm Shoe, 4.65m Boom, 3.00m Arm, 0.50m³ Bucket (420kg) Unit: 1,000kg

LOAD POINT HEIGHT B (m)	LOAD RADIUS A (m)												MAXIMUM LOAD RADIUS							
	1.00		2.00		3.00		4.00		5.00		6.00		7.00		●	○	m			
8.00															* 1.36	* 1.36	5.32			
7.00															* 1.17	* 1.17	6.48			
6.00															* 1.08	* 1.08	7.26			
5.00										* 1.91	* 1.91				* 1.03	1.03	7.82			
4.00									* 1.90	* 1.90	* 2.02	1.88	2.01	1.37	* 1.02	* 0.99	8.19			
3.00									* 2.34	* 2.34	* 2.28	1.82	1.98	1.34	* 1.02	* 0.91	8.41			
2.00						* 4.71	* 4.71	* 3.47	* 3.47	* 2.92	2.40	2.56	1.74	1.94	1.29	* 1.06	0.87	8.49		
1.00						* 6.73	5.04	* 4.52	3.22	3.35	2.25	2.46	1.65	1.88	1.24	* 1.11	0.86	8.44		
0.00						* 5.27	4.75	4.66	3.02	3.22	2.13	2.38	1.58	1.83	1.20	* 1.20	0.88	8.25		
-1.00						* 2.97	* 2.97	* 6.34	4.65	4.54	2.92	3.13	2.05	2.32	1.53	1.80	1.17	* 1.34	0.95	7.90
-2.00	* 3.68	* 3.68			* 4.99	* 4.99	7.70	4.64	4.49	2.87	3.09	2.01	2.29	1.50	1.79	1.16	* 1.55	1.08	7.39	
-3.00	* 5.45	* 5.45			* 7.45	* 7.45	7.76	4.68	4.50	2.88	3.08	2.01	2.30	1.50			* 1.88	1.32	6.65	
-4.00					* 9.58	* 9.58	* 7.28	4.78	4.56	2.94	3.13	2.06					* 2.30	1.82	5.58	
-5.00						* 5.91	4.96	* 4.44	3.07											

NOTE : 1. Lifting capacities are based on ISO 10567.
2. Lifting capacities shown do not exceed 87% of machine hydraulic capacity or 75% of minimum tipping load.
3. Capacities marked with an asterisk (*) are limited by hydraulic capacities.
4. Lifting capacities are based on machine standing on firm, uniform supporting surface. User must make allowances for job conditions such as soft or uneven ground.
5. Lifting capacities shown should not be exceeded. Weight of all lifting accessories must be deducted from the above lifting capacities.
6. Capacities apply only to the machine as originally manufactured and equipped by KATO WORKS CO., LTD.