

STANDARD AND OPTINAL EQUIPMENTS

Category	Item	STD	LC	
● Safety equipments	ISO12117-2 Fops top guard ISO 10262 LEVEL 2	●	○	
	Safety lock lever	○	○	
	Seat-belt	○	○	
	Emergency engine stop switch	○	○	
	Emergency escape hammer	○	○	
	Rear view mirror (light&left side)	○	○	
	Rear view camera	○	○	
	Side view camera	●	●	
	Working light (slewing table right side, boom left side)	○	○	
	Optional working light (cab left and right side)	●	●	
	Optional working light (boom right side)	●	●	
	LED working lights	●	●	
	Boom/arm anti-drift valve	○	○	
	Slewing anti-counter action	○	○	
	Automatic parking brake (slewing table)	○	○	
	Automatic parking brake (traveling)	○	○	
	Fire wall	○	○	
	Falling prevention handrail	○	○	
	Battery disconnect switch	○	○	
	Caution indication	○	○	
	Cabin lower guard	●	●	
	Cabin front guard	●	●	
	Cabin head guard	●	●	
	Step on side of cab	●	●	
	Fire extinguisher	●	●	
	Additional electric horn	●	●	
	Traveling alarm	●	●	
	Swing interlocking warning lamp	●	●	
Loud speaker	●	●		
● System	APC mode (A, P and E)	○	○	
	Front attachment mode	○	○	
	Auto-slow, one touch slow	○	○	
	Automatic transmission for traveling	○	○	
	2 speed modes for traveling	○	○	
			STD	LC
			○	○
			○	○
● Cabin	6 points viscous dumping cab suspension	○	○	
	Pull up front window	○	○	
	7 inch touch screen control LCD monitor	○	○	
	Double slide operator seat	○	○	
	Seat suspension adjustable to operator's weight	○	○	
	Automatic air conditioner (pressurized)	○	○	
	Defroster	○	○	
	Large capacity heat & cold insulation box	○	○	
	Intermitted windshield wiper	○	○	
	AM/FM radio	○	○	
	Two stereo speakers	○	○	
	LED interior light	○	○	
	Cup holder	○	○	
	Helmet hook	○	○	
	24V electric supply port	○	○	
	Transparent roof hatch with sun visor	●	●	
Sun shade	●	●		
Sun visor	●	●		
Rain visor	●	●		
Ash tray (with cup holder)	●	●		
12V electric supply port	●	●		
USB port (x2)	●	●		
Seat cover	●	●		
● Working equipments	0.45m ³ bucket	●	●	
	0.55m ³ bucket	●	●	
	0.80m ³ bucket	○	○	
	0.90m ³ bucket	●	●	
	1.00m ³ bucket	●	●	
	1.10m ³ bucket	●	●	
	0.80m ³ reinforced bucket	●	●	
	0.90m ³ reinforced bucket	●	●	
	Arm (2.93m)	○	○	
	Arm (3.92m)	●	●	
	Various type of reinforced arm	●	●	
● Boom	Standard boom (5.63m)	○	○	
	Reinforced boom (5.63m)	●	●	
	Bracket on boom for small swing radius (5.63m)	●	●	
	Standard side link	○	○	
Reinforced side link	●	●		
● Traveling equipments			STD	LC
	Grouser shoe	600mm	○	○
		700mm	○	○
		800mm	○	○
		900mm	○	○
	Cover on the bottom face of traveling frame		○	○
	Traveling motor cover (reinforced)		●	○
	Track guard	1 pc each side	○	○
		2 pcs each side	?	○
		3 pcs each side	○	○

◎ Standard equipments ● Option ? No setting

BUCKET							
Type of bucket		Backhoe bucket					
Bucket capacity	m ³ , ISO	0.45	0.55	0.80	0.90	1.00	1.10
Bucket width	W/O side cutters, mm	650	800	1,020	1,190	1,270	1,400
	with side cutters, mm	760	910	1,130	1,300	1,380	-
Number of bucket teeth		4	4	5	5	6	6
Shape of bucket							
Standard boom +	Standard arm (2.93m)	●	●	●	●	▲	□
	Long arm (3.92m)	●	●	▲	×	×	×

● General purpose ▲ Light work □ Loading × Unusable [] HD823MRLC-7
○ Pink colored area means standard.

TRACK SHOES					
Type of shoes		Grouser shoe			
Shoe width	mm	600	700	800	900
Operating weight	kg	23,000 [23,700]	23,400 [24,000]	23,700 [24,300]	23,900 [24,600]
	mm	2,820 [2,990]	2,920 [3,090]	3,020 [3,190]	3,120 [3,290]
Ground pressure	kPa	51 [49]	45 [43]	40 [38]	36 [34]
	kgf/cm ²	0.52 [0.50]	0.46 [0.43]	0.40 [0.38]	0.36 [0.34]

Ground pressure when equip standard bucket and arm.
[] HD823MRLC-7
○ Pink colored area means standard.

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

● Contact for enquiry:



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HD823^{MR}-7
 REGZAM | HYDRAULIC EXCAVATOR

Mini Radius

MR-7



HD823_{MR}-7

REGZAM | HYDRAULIC EXCAVATOR

High performance & Environmentfriendly KATO compacttail excavator



Complete operation

- New hydraulic system increases the cycle time
- Lever operation burden has reduced

Maintainability

- Good access to service parts
- Daily cleaning has been facilitated
- Safe features for maintenance

Safety

- New ROPS cabin
- New engine neutral start mechanism

Comfortable cabin

- New air conditioner
- Complete interior
- Operability is up
- Pressurizing function

New APC

- Large size liquid crystal display
- Touch screen control
- Rear and side view monitor are available

Environment-friendly

- USEPA Tier 4 and EU Stage 3 compliant engine
- New control valve reduces the fuel consumption

7 High productivity and comfort operability

1 High performance and environment-friendly Isuzu engine



Selective Catalytic Reduction (SCR) system

The SCR system cuts the NO_x (nitrogen oxides), PM (particulate matter) and NMHC (non-methane hydrocarbon). The emission control is compliant with Stage 4 and Tier 4.

EGR (Exhaust Gas Recirculation) system

The large capacity water-cooled EGR cooler suppresses the NO_x.

Digging force

Max. bucket digging force at high power **150kN**
 at high power **159kN**
 Max. arm digging force **109kN**
 at high power **115kN**

Working range

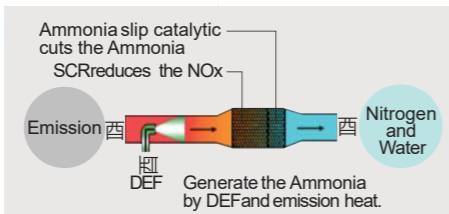
Max. digging radius **9,930mm**
 Max. digging depth (STD position) **6,690mm**
 Max. digging depth (optional small swing position) **5,260mm**
 Max. digging height (STD position) **9,840mm**
 Max. digging height (optional small swing position) **11,330mm**

2 Selective Catalytic Reduction (SCR) system

The SCR system provides chemical reaction between Urea and NO_x in emission. This reaction generates Nitrogen and Water which are friendly to environment.

The large capacity DEF (Diesel Exhaust Fluid) tank

DEF replenishment is every 1 time per 3 times of fuel replenishment (subject to working condition).

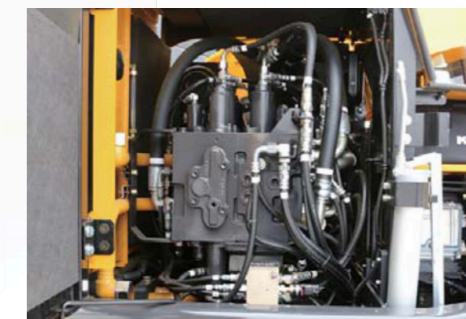


Cycle time is increased by **9%** (compared with HD823MR-6 at Pmode)

3 New hydraulic system design

New control valve

The internal mechanism of the control valve has been facilitated. It reduces the pressure loss and supports the low fuel consumption operation. The additional valve can be attached and optional operations are available.



New main pump

The new main pump reduces the fuel consumption. The PTO pump can be installed which allows optional operation.



Large size hydraulic hose and pipe

The hose and pipe of the boom and arm cylinders have increased. It reduces pressure loss and increases the productivity.



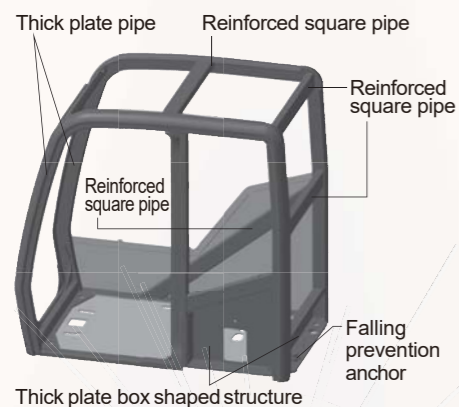
Smooth operation

The operation burden has decreased by approximately 25% and easy to operate.



Safer cab with various features

The KATO original cabin is durable and smart design. The cabin is compliant with ROPS direction (ISO12117-2). It secures the safety and protection of the operator from roll-over accident. The cabin is also compliant with ISO10262 (Top guard level) and protect the operator from falling objects.



Window and rise up wiper

The large size right window and the rise up wiper secure excellent view. The wiper is storable to the right pillar.



Polycarbonate door window

Polycarbonate prevents the crack arise from scattering stone. Hard coating secures high resistance to yellowing or scratch of surface.



Safety lock lever

The new electronic control lock mechanism enhances safety and prevents miss operation. It locks the hydraulic circuit in case the console is jumped up. The engine start operation is active only when the lever is applied to lock position.



Handrail and step

To prevent falling accident, the handrail has been provided to the upper structure. The large size anti-slip step enables operator to access the upper structure safer.

Other safe features

- Rearview camera
- Sideview camera (option)
- Emergency engine stop switch
- Emergency escape hammer
- Seatbelt
- Fireproof wall
- Fanguard
- Retractable side mirror
- LED working light (option)
- Fire extinguisher (option)



Best comfort and high efficiency



Heat & cold insulation box

It is capable to store 6 drink bottles (500ml).



New operation lever

Operation switches are arranged to up and bottom. Round shape grip is easy to control.



Rear storage space

It is capable to store objects such as 2l size drink bottle.



Cabin pressurization

It prevents dust by enhancing the airtightness.

Air conditioner

- Air volume is increased by 26%
- Paper type filter

New foot rest arrangement

The foot rest has been relocated to optimum position. Replacement of the floor mat has become easier.



Drink holder

Soft material is used for the drink holder. Various arrangements are available.



Other cabin features

- Seat suspension with large size shock absorber
- Luggage space
- Helmet hook
- AM/FM radio with 2 speakers
- USB port (option)
- 12V electric port (option)
- Ash tray (option)
- Sun visor (option)
- Rain visor (option)
- Transparent roof hatch (option)



Luggage space



USB port (option)

New APC for smart operation



Visibility

Large and high resolution display

The display is 7 inch size and IPS liquid crystal display provides high quality image.

Safety

Rear view camera for standard feature

Operator is able to confirm rear and side view through dual view display (side view camera is option).



It indicates rear and side view at the same time.

Operability Touch screen control is available for all operation.



Mode selection

Pull-down menu enables operator to confirm all mode on the display at once.



Alarm message

The display indicates various alarms. It also indicates the DEF aqueous fluid replenishing timing.



Air conditioner

The air conditioner operation is available on the display.



Various information

Operator is able to set up to display various information such as maintenance information.

High performance and superior maintenance



Facilitated the layout

The electronic items and air cleaner are located in the rear cabin compartment. It has facilitated and become compact.



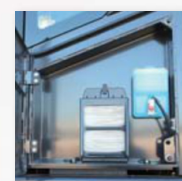
Filters

The filters are concentrated on the right-rear location which is easy to access. The cartridge type main fuel filter is easy to replace.



Greasing port

It adopts greasing port for the slewing motor. The greasing port location is easy to access.



Cabin maintenance space

It is able to replace the filter for the air conditioner and replenish the washer fluid from the cab maintenance space which is located outside of the cab.



High performance bush

The new dimple design bush keeps the grease longer than before. It has been provided to boom foot, arm foot and arm top.



Tool box

The tool box for daily maintenance.



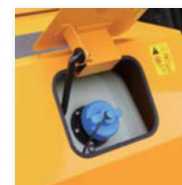
Good access to the engine

The steps and the hand-rails are provided for smooth and safe access to the engine at maintenance.



Cooling system

The expansion tank has been installed to the radiator top. It increases air breeding performance and cooling performance.



DEF tank

The DEF tank is easy to access.



Battery disconnect switch

It is capable to shut down the battery completely in non-operation state. The maintenance of electronic devices becomes safer.

Technical Specifications

ENGINE

Model..... ISUZU4HK1X
 4 cycle intercooler turbo charged diesel engine
 Number of cylinders..... 4
 Bore & Stroke..... 115 mm × 125 mm
 Total displacement..... 5.193 L
 Rated output..... 128.4kW/2,000min⁻¹ (ISO 14396)
 120.5kW/2,000min⁻¹ (ISO 9249 Net)
 Max. torque..... 670N·m/1,600min⁻¹ (ISO 14396)
 646N·m/1,600min⁻¹ (ISO 9249 Net)
 Compression ratio..... 16.5:1
 Combustion system..... Direct injection
 Cooling system..... Pressurized water circulated by a Impeller type pump with thermostat
 Lubrication system..... Pressurized oil fed by a gear pump through full-flow and by-pass cartridge filter
 Starter..... Electric, 24V-5.0kW
 Generator..... Alternator, 24V-50A
 Air cleaner..... Double element Dry type filter

HYDRAULIC SYSTEM

Pumps..... Double variable piston pump and gear pump
 Max. discharge flow..... 2×248L/min
 Max. discharge pressure..... 34.3MPa
 Max. discharge pressure (high power)..... 36.3MPa
 Oil filtration..... Full-flow filter with replaceable element, a pilot line filter and suction strainer
 Control valves..... 5+4 section multiple control valves (with one free service circuit)
 Pilot pump..... Gear type
 Oil cooler..... Finned tube, forced ventilation
 Pressure relief valves..... Primary and secondary on each circuit

SWING SYSTEM

Drive..... Axial piston motor with shockless valve and reduction gear.
 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..... 14.0min⁻¹

TRAVEL SYSTEM

Drive..... Independent axial piston motor with reduction for each side
 Brakes..... Independent disk parking brake for each side, applied automatically when the travel levers are in the neutral position.
 Track shoes..... 46 each side
 49 each side (LC)
 Track adjustment..... Grease cylinders with recoil springs
 Lubrication..... Sealed-for-life rollers and front idlers with floating seals
 Travel speed..... High 0~5.9km/h
 Low 0~3.9km/h
 Gradeability..... 70% (35°)
 Max. drawbar pull..... 184 kN

DIGGING FORCE (ISO 6015)

Bucket digging force..... 150kN at high power..... 159kN
 Arm (2.93m) digging force..... 109kN at high power..... 115kN

SERVICE DATA

Fuel tank..... 325 L
 Cooling system..... 40 L
 Engine oil..... 26 L
 DEF tank capacity..... 55 L
 replenishment..... 46 L
 Track drives..... 2×5.0L
 Hydraulic oil tank level..... 150 L
 system..... 270 L
 In standard figure, with the 2.93m arm, 600mm grouser shoes and 0.80m³ (ISO) bucket.
 Operating weight..... 23,000 kg
 Ground pressure..... 51 kPa

CAB & CONTROLS

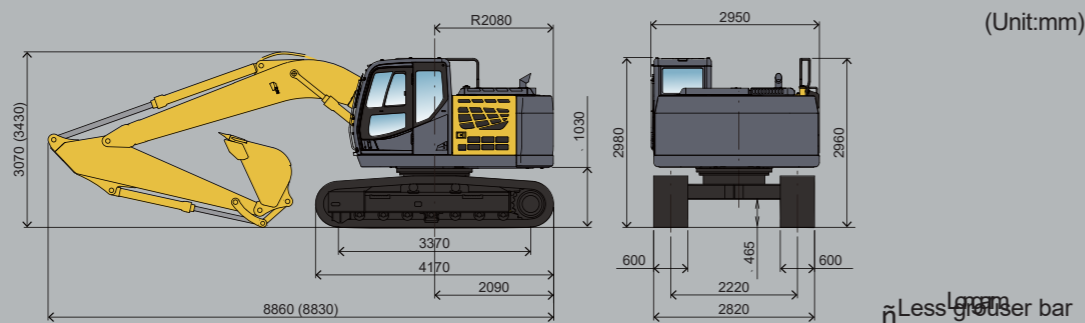
Type..... All weather sound suppressed, cab mounted on 6 point viscous mounting.
 Right hand levers..... Controls the boom & bucket
 Inner right hand lever (with foot pedal)..... Controls the right hand track
 Inner left hand lever (with foot pedal)..... Controls the left hand track
 Left hand lever..... Controls the arm & swing
 Pilot control..... Travel, boom, arm, bucket and swing
 Engine throttle..... Electric "Accell dial"
 Meter & gauges..... Hour meter, water temperature, DEF and fuel level
 Working lights..... Provided on the boom left side and right front cover
 Lubrication chart..... Inside of the right front side cover
 Quick Selection of Working Modes.....
 P: Professional mode for experienced operator. Established both power and good response
 A: All-round Multi Purpose Mode for all application from precision work to heavy duty work by stroke of operation levers
 E: ECO Mode for economical works
 Color monitor display with touch screen
 Rear / side View monitor

AIR CONDITIONER

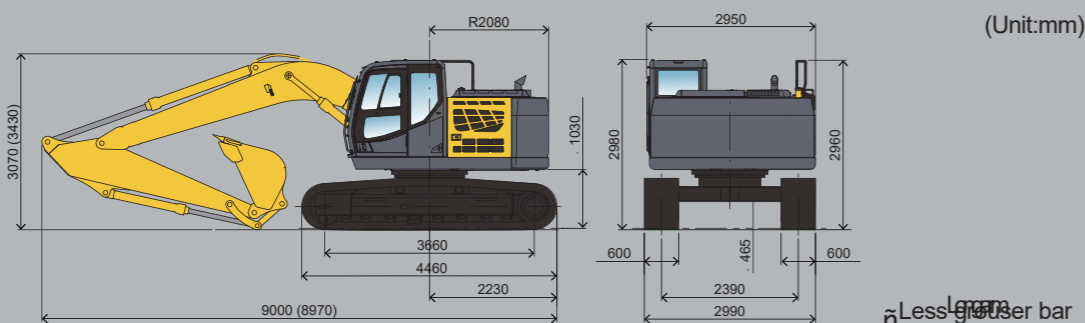
Air conditioner gas contains fluorinated greenhouse gases.
 Industrial designation..... HFC-134a
 Quantity..... 1.0kg
 CO₂ equivalent..... 1.43ton
 Global warming potential (GWP)..... 1430

Dimensions

HD823MR-7



HD823MRLC-7

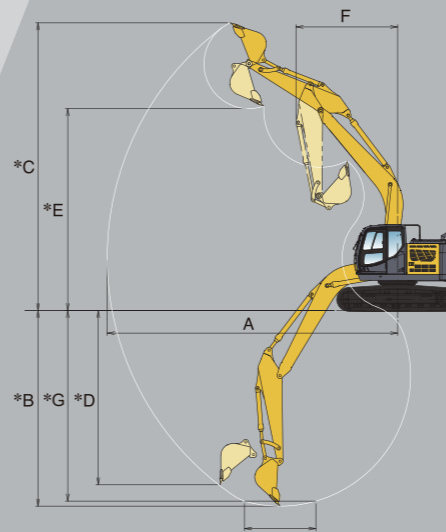


Working Ranges

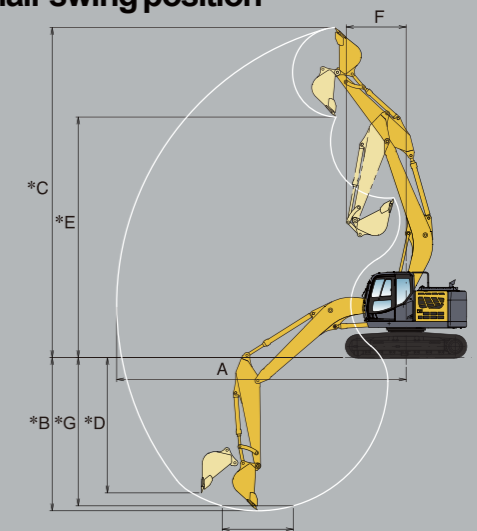


HD823MR-7
 Specs

Standard backhoe



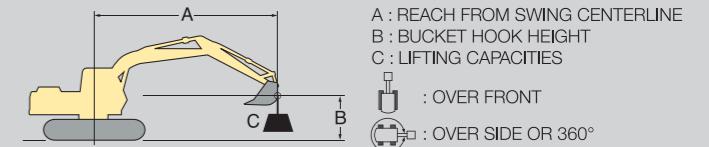
Small swing position



Unit : mm *Less grouser bar

Range	Arm	Standard boom		Bracket on boom for small swing radius (option)	
		Standard arm 2.93m	Long arm 3.92m	Standard arm 2.93m	Long arm 3.92m
A : Maximum digging radius		9,930	10,870	9,930	10,870
* B : Maximum digging depth		6,690	7,690	5,260	6,260
* C : Maximum digging height		9,840	10,400	11,330	12,140
* D : Maximum vertical wall		5,960	7,080	4,650	5,650
* E : Maximum dumping height		6,900	7,440	8,260	9,070
F : Minimum swing radius		3,480	3,380	2,050	2,310
* G : Maximum digging depth at 2,440mm (8ft) floor length		6,520	7,550	5,090	6,120

Lifting Capacities



HD823MR-7 BOOM: 5.63 m, ARM: 2.93 m, BUCKET: 0.8 m³ (650kg), SHOE WIDTH: 600mm, COUNTERWEIGHT: 6,100kg Unit: kg

LIFT POINT HEIGHT B(m)	LIFT POINT RADIUS A(m)								AT MAXIMUM LIFT POINT RADIUS				
	1.50		3.00		4.50		6.00		7.50		☐	☐	RADIUS (m)
7.50							3650	3650			3580	3580	6.11
6.00							4030	4030			3020	3020	7.46
4.50							4610	4590	4470	3090	3010	2650	8.12
3.00			5480	5480	6930	6810	5540	4310	4600	2960	3150	2370	8.47
1.50			4960	4960	5680	5680	6350	4030	4450	2820	3430	2260	8.54
0.00			5200	5200	5120	5120	6120	3810	4320	2710	3660	2280	8.35
-1.50	6530	6530	5080	5080	5050	5050	6000	3710	4270	2660	3990	2490	7.86
-3.00	5660	5660	4910	4910	5190	5190	6020	3730			4760	2980	7.02
-4.50			4930	4930	5760	5760					6760	4230	5.68

HD823MRLC-7 BOOM: 5.63 m, ARM: 2.93 m, BUCKET: 0.8 m³ (650kg), SHOE WIDTH: 600mm, COUNTERWEIGHT: 6,100kg Unit: kg

LIFT POINT HEIGHT B(m)	LIFT POINT RADIUS A(m)								AT MAXIMUM LIFT POINT RADIUS				
	1.50		3.00		4.50		6.00		7.50		☐	☐	RADIUS (m)
7.50							3650	3650			3580	3580	6.11
6.00							4030	4030			3020	3020	7.46
4.50							4610	4610	4470	3490	3010	3000	8.12
3.00			5480	5480	6930	6930	5540	4860	4910	3360	3150	2700	8.47
1.50			4960	4960	5680	5680	6570	4570	5200	3220	3430	2590	8.54
0.00			5200	5200	5120	5120	7140	4350	5080	3100	3930	2630	8.35
-1.50	6530	6530	5080	5080	5050	5050	6710	4250	5030	3050	4690	2850	7.86
-3.00	5660	5660	4910	4910	5190	5190	7100	4260			5600	3410	7.02
-4.50			4930	4930	5760	5760					6980	4810	5.68

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.
 7. The operator should be fully acquainted with the instruction manual before operating the machine.