

# HD820-R5

## Progress to the Next Stage

# KATO

## FULLY HYDRAULIC EXCAVATOR

# REGZM

## FULLY HYDRAULIC EXCAVATOR

# HD820-R5

Bucket capacity : 0.8m<sup>3</sup>-0.9m<sup>3</sup> (ISO)  
Engine output : 113kW / 2,000min<sup>-1</sup> (ISO Net)  
Operating weight : 20,500kg

### EQUIPMENT

- Color monitor display (APC300)
- Auto-slow, one touch slow
- Working mode selector (APC300)
- 2 speed modes for traveling
- Automatic transmission for traveling
- Pull up front window
- 6 points viscous dumpling cab
- Double slide operator seat
- Seat suspension adjustable to operator's weight
- Intermitted windshield wiper
- Emergency exit rear window
- Cabin light
- Boom / Arm Anti-drift valve
- Service port (1 spool)
- 2 std working light  
(Slewing table right side, boom left side)
- Automatic parking brake (slewing)
- Automatic parking brake (traveling)
- 24 volt power supply
- Rear view mirror (right side)
- Track guard (1 pc each side)
- 2 holes front window washer
- Automatic air conditioner (pressurized)
- Hot & cool box
- AM / FM radio
- 13 cm dual corn speaker x2
- Air cleaner double element
- Pre-cleaner
- Tool set
- Various type of rainforced arm
- Seat-belt
- 2 ways option piping (for breaker & crusher)



● Contact for enquiry:

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

### KATO WORKS(CHINA)LTD.

Huayang Science Park, Kunshan Economic & Technology Development Zone, Kunshan, Jiangsu, China, 215313  
Tel. :0512-57065000  
Fax. :0512-57065065

### KATO WORKS CO.,LTD.

9-37, Higashi-ohi 1-chome, Shinagawa-ku, Tokyo 140-0011, Japan.  
Tel. :Head Office Tokyo(03)3458-1111  
Overseas Marketing Department Tokyo(03)3458-1115  
Fax. :Tokyo(03)3458-1163



Option specification

# A high-grade excavator looking at the future

# REGZM

## HD820-R5



- **Reliable Mitsubishi 4M50TL engine is mounted**

Through the optimization of the engine control system, the fuel efficiency is increased by 5% in the most commonly used operation area.

- **The APC300 system has the excellent operability**

Through switching between the three modes, choose the most optimum mode of operation according to different working conditions.

- **Stronger power**

Increases the digging force by 10% (compared to HD820R).

- **The fuel filtration system is enhanced**

- **Efficient machine construction and configuration design making the maintenance and safety better**

Improve engine oil filter and fuel filter configurations. Equipped with battery disconnect switch.

# Better maintainability and safety Establish a long-term stability of the machine



▲ Engine oil filter configuration is more efficient  
The filter can be replaced without go through under the body with better maintainability and safety.



▲ The fuel tank is equipped with a discharge cock



▲ Equipped with battery disconnect switch



▲ Cooler  
The oil cooler and the intercooler and the radiator are arranged parallel to make the cooling effect better.



▲ Fuel filter  
By arranging the triple filters in the same position to improve the efficiency of replacement. Easy to access and improve safety.



▲ Large capacity toolbox equipped with air pressure spring



▲ New air pre-filter that does not require the special maintenance

● The fuel tank is increased to 400L

● Common rail electronic control fuel system



# Common rail electronic control fuel system further enhances fuel efficiency More energy efficient and more environmentally friendly

## High efficiency and low fuel consumption and low noise Mitsubishi 4M50-TL engine

- High output power engine with intercooler and turbocharger
  - Max. output power : 113kW / 2,000min<sup>-1</sup> (ISO Net)
  - Max. torque : 607N·m / 1,500min<sup>-1</sup> (ISO Net)
  - Fuel consumption : 215g / kW·h

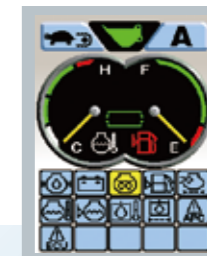
# Latest APC300 with various functions



- Able to set maintenance term for filter and oil.
- Hour meter function is adopted.
- Adopt "P mode" (Pro Mode). P, A and E mode operation method are selectable.
- Emergency backup switch is equipped for in case of APC malfunction.



▲ Hour meter  
The location of hour meter is improved so as to confirm conveniently from outside of the cab.



◀ Initial confirmation screen



◀ When the monitor fails



◀ When engine emergency stop switch is operated

### P Mode

Pro mode established both power and good response.

### A Mode

All-round mode is ideal for general operation.

### E Mode

ECO mode for economical works.

### Auto-slow mode

Auto-slow mode controls the engine to ideal engine speed automatically and save the fuel consumption.



# Technical Specifications

## ENGINE

Model..... Mitsubishi 4M50  
 4 cycle intercooler turbo charged diesel engine  
 Number of cylinders..... 4  
 Bore & Stroke..... 114mm×120mm  
 Total displacement..... 4,899 L  
 Rated output..... 113kW/2,000min<sup>-1</sup> (ISO Net)  
 Max. torque..... 607N·m/1,500min<sup>-1</sup> (ISO Net)  
 Compression ratio..... 17.5:1  
 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 by-pass cartridge filter  
 Starter..... Electric, 24V-5.0kW  
 Generator..... Alternator, 24V-50A  
 Governor..... Electronic variable speed control  
 Air cleaner..... Dry type double filter

## HYDRAULIC SYSTEM

Pumps..... Double variable piston pump and gear pump  
 Max. discharge flow..... 2×236L/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

## 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 and fuel level  
 Working lights..... Provided on the boom left side and right front cover  
 Lubrication chart..... Inside of toolbox

## APC300

- 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 back up light
- Engine oil pressure
- Hydraulic oil filter
- Engine preheater
- Hydraulic oil temperature
- Water temperature
- Water level
- Fuel level
- Battery charge
- APC monitor and air cleaner
- Calendar

## BOOM, ARM AND BUCKET

Boom cylinders..... 2, double acting  
 Bore & Stroke..... 125mm×1,315mm  
 Arm cylinder..... One, double acting  
 Bore & Stroke..... 135mm×1,630mm  
 Bucket cylinder..... One, double acting  
 Bore & Stroke..... 120mm×1,090mm  
 Lubrication..... Grease nipples, with centralized greasing for remote points  
 Bucket digging force..... 150kN  
 Arm digging force..... 115kN

## 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..... 13.0min<sup>-1</sup>  
 Tail swing radius..... 2,760mm  
 Min. front swing radius  
 Standard Boom..... 3,460mm

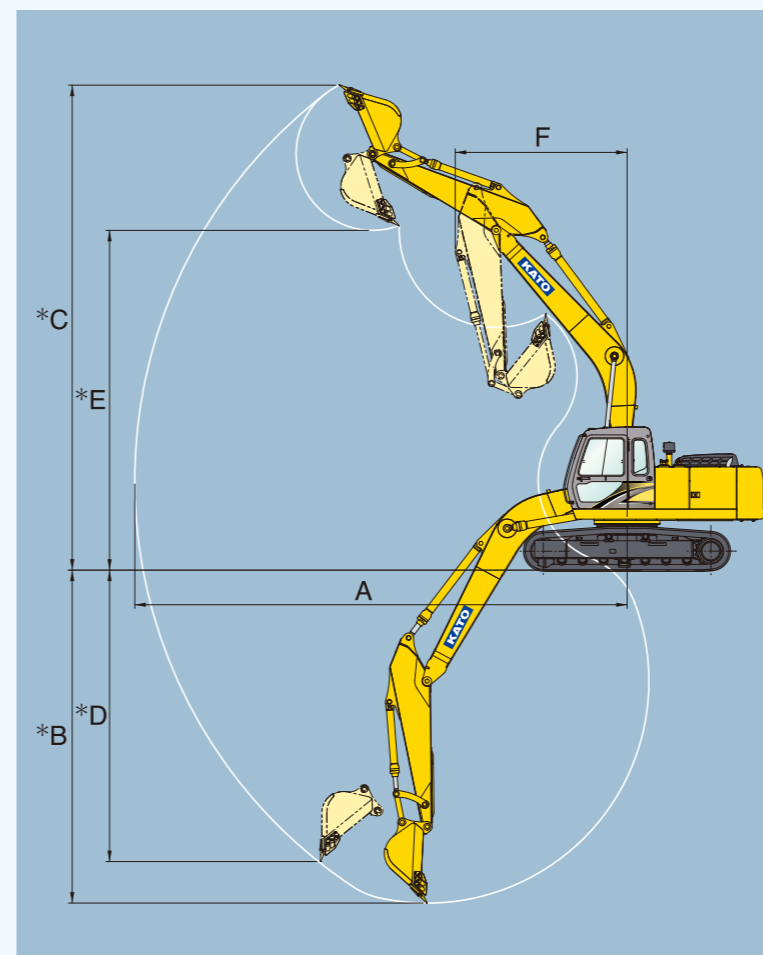
## TRAVEL SYSTEM

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  
 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  
 Low 0~3.6km/h  
 Gradeability..... 70% (35°)  
 Max. drawbar pull..... 185kN  
 Ground clearance..... 465mm (less grouser bar)  
 Track length..... 4,170mm

## SERVICE DATA

Fuel tank..... 400 L  
 Cooling system..... 25 L  
 Engine oil..... 21 L  
 Track drives..... 2×5.0 L  
 Hydraulic oil tank (level)..... 165 L (system)..... 260 L  
 In standard figure, with the 2.93m arm, 600mm grouser shoes and 0.80m<sup>3</sup> (ISO), bucket.  
 Operating weight..... 20,450kg  
 Ground pressure..... 46kPa

# Working Ranges



Unit: mm

Range	Arm	Standard arm 2.93m
A : Maximum digging radius		9,910
* B : Maximum digging depth		6,700
* C : Maximum digging height		9,760
* D : Maximum vertical wall		5,860
* E : Maximum dumping height		6,840
F : Min. swing radius		3,460

The size with the \* symbol does not include the track shoe height.

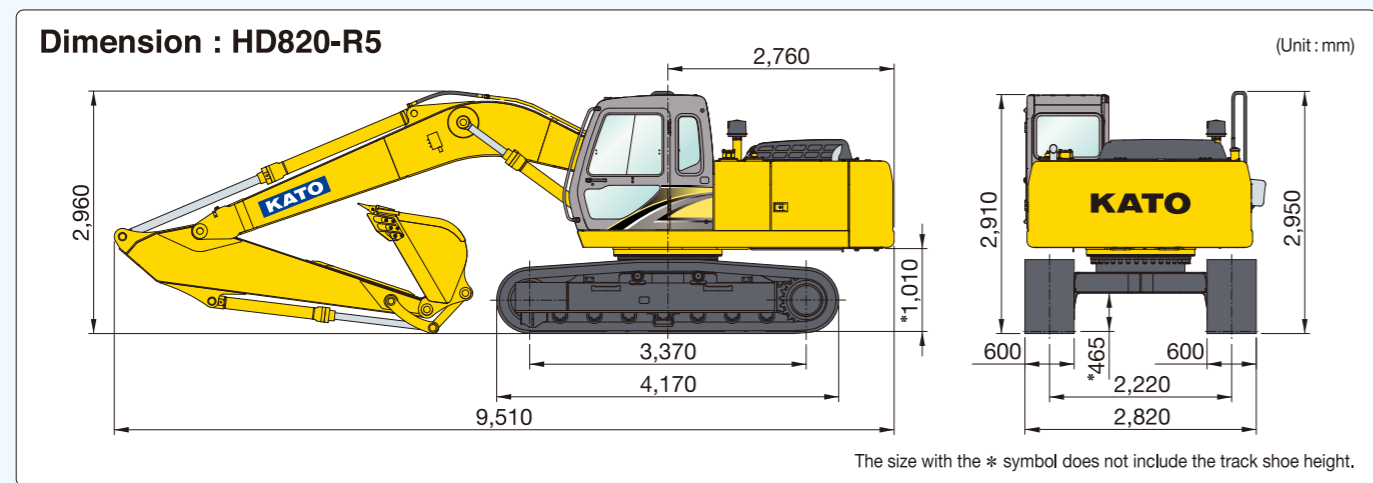
### Bucket

Type of bucket	Backhoe bucket				
Bucket capacity	m <sup>3</sup> , ISO	0.80	0.90	0.90 Reinforced bucket	
Bucket width	W/O side cutters	mm	1,020	1,190	1,020
	with side cutters	mm	1,135	1,305	1,135
Number of bucket teeth		5	5	5	
Shape of bucket					

### Track Shoes

Type of shoes		Grouser shoe			
Specifications for main body	Shoe width	mm	600	700	800
	Operating weight	kg	20,450	20,860	21,120
	Overall height	mm	2,950	2,950	2,950
	Ground clearance	mm	*465	*465	*430
	Crawler overall length	mm	4,170	4,170	4,170
	Distance between shoe edge of both side	mm	2,820	2,920	3,020
	Ground pressure	kPa	46	41	36
		kgf/cm <sup>2</sup>	0.37	0.33	0.32

Ground pressure when equip standard bucket and arm. \* Less grouser bar  
 Blue colored area means standard.



# Lifting Capacity

HD820-R5 boom: 5.63m, bucket arm: 2.93m, bucket: 0.8 m<sup>3</sup> (640kg), track shoe width: 600mm, counterweight: 4,200 kg Unit: 1,000kg

Lifting point height B (m)	Lifting radius A (m)																Max. lifting radius			
	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00										(m)		
7.00																		*3.17	*3.17	6.74
6.00																		*3.08	*2.84	7.41
5.00																		*3.06	2.45	7.90
4.00																		*3.12	2.19	8.23
3.00																		*3.23	2.03	8.43
2.00																		*3.13	1.94	8.51
1.00																		*3.10	1.90	8.47
0.00																		*3.16	1.93	8.31
-1.00	*4.86	*4.86	*5.98	*5.98	*5.12	*5.12	*4.84	*4.84	*5.29	4.26	5.25	3.22	4.11	2.53	3.33	2.04	3.32	2.03	8.02	
-2.00	*7.19	*7.19	*5.84	*5.84	*4.99	*4.99	*4.86	*4.86	*5.31	4.22	5.22	3.19	4.10	2.51			3.62	2.22	7.59	
-3.00	*6.20	*6.20	*5.28	*5.28	*4.87	*4.87	*4.91	*4.91	*5.48	4.26	5.24	3.21					4.15	2.56	6.99	
-4.00			*4.96	*4.96	*4.84	*4.84	*5.07	*5.07	*5.91	4.36	5.36	3.31					5.14	3.19	6.17	
-5.00					*4.96	*4.96	*5.52	*5.52	*7.22	4.58							*7.20	4.56	5.01	

- NOTE:
- The total rated lifting weight in the table is based on the ISO 10567 standard.
  - The total rated lifting weight shall not exceed 87% of the mechanical hydraulic system performance or 75% of the minimum overturning load.
  - The total rated lifting weight with an asterisk (\*) is limited by hydraulic performance.
  - The total rated lifting weight indicates the lifting performance when the excavator body is parked on a solid and flat support surface. If the support surface of the body is soft or uneven, the operating conditions with the remaining load shall be taken into account.
  - Never lift the goods whose weight is more than the total rated lifting weight. In addition, the weight of all lifting appliances is subtracted from the total rated lifting weight.
  - Lifting performance in the table only applies to the excavator made by Kato (China) Construction Machinery Co., Ltd. without modification by the user.
  - Before starting the operation of the excavator, please read the manual carefully to fully grasp the contents of each chapter.