

ACERA GEOSPEC SK75SR-3

#### Hydraulic Excavators



# vators PEC SK755R

Bucket Capacity:

- 0.11 0.35 m<sup>3</sup> ISO heaped
- Engine Power:
   42 kW/2,200 min<sup>-1</sup> (IS014396)
- Operating Weight:

6,940 kg

Complies with the latest exhaust emission regulations US EU (NRMM) Latest Japanese EPA Tier III Stage IIIA Regulations

Real

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## Fuel Consumption Gives You the Competitive Edge

KOBELCO

KOBELCO's SR hydraulic excavator has seen a new evolution.

KOBELCO has installed its full range of fuel-saving technologies in this SR model, resulting in unmatched low fuel consumption that heads the class in engine-driven hydraulic excavators.

Outstanding performance in tight spaces, on-site safety, less stress for the operator ... KOBELCO was first to understand these demands and in response developed SR, short rear swing, excavators. The acclaimed SR concept went on to be adopted throughout the industry.

But KOBELCO didn't stop there. Aware of changing needs among machine users in a changing social environment, KOBELCO has taken the SR concept through a further evolution with value-added features. Adding an AIS auto-idling-stop feature—another first in the industry—helps save energy, and KOBELCO's unique design for engine cooling, the iNDr system, cuts noise to extremely low levels.

The newest KOBELCO approach to low fuel consumption, NEXT-3E, now also applies to short rear swing models, to maximize work volumes while saving on fuel. And the new ECO-mode in the SK75SR creates even greater savings on fuel to turn SR models into exceptional high-earning machines.

KOBELCO continues to lead the field in short rear swing excavators.

## Five Ways the SK75SR Scores:

- More Work with Less Fuel!
- Efficient Performance!
- Fast, Accurate and Low-Cost Maintenance
- A Working Environment that Helps Operator Concentrate on the Job
- Low Noise: iNDr

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## Pursuing the "Three E's"

NEXT-3E

The Perfection of Next-Generation, Network Performance

### Enhancement

**Greater Performance Capacity** 

Economy Improved Cost Efficiency

## Environment

Features That Go Easy on the Earth



The "GEO" in GEOSPEC expresses our respect for our planet, and for the solid ground where excavators are in their element. This is accompanied by SPEC, which refers to the performance specifications needed to get the job done efficiency as we carry on the tradition of the urban-friendly ACERA series.



## **More Work with Less Fuel!**



#### **Fuel Consumption and Work Volume**

The new hydraulic system and an additional ECO-mode have cut fuel consumption by up to 27%.



with previous model, in KOBELCO tests.

\*Figures for work volume: digging volume per liter of fuel (m3/L) com pared with previous model, in KOBELCO tests.

#### Significant Extension of Continuous Working Hours

The combination of a largecapacity fuel tank and excellent fuel efficiency delivers an impressive increase in the length of continuous working.



#### ECO-mode

Work modes for a closer match to the job in hand. An addition to the existing H-mode and S-mode, the new ECOmode saves even more energy.



H-mode: For heavy duty when a higher performance level is required.

**S-mode:** For normal operations with lower fuel consumption.

ECO-mode: Puts priority on low fuel consumption and economic performance.



#### 1 NEXT-3E Technology New Hydraulic System

KOBELCO's hydraulic circuit analysis is combined with the use of new, high-efficiency pumps in a three-pump electro-hydraulic actuator control system that replaces the conventional mechanical system. It all adds up to a hydraulic system that delivers the best outcome: top-class work performance on less fuel.





#### 2 NEXT-3E Technology High Reliable Engine

The engine is a PFR-pump fuel injection engine for high reliability. It is equipped with cooled EGR that lowers the temperature of the air intake to reduce its oxygen concentration. It achieves big reductions in particulate matter (PM) and NOx emissions while boosting output.





#### **3** NEXT-3E Technology Total Tuning Through Advanced ITCS Control

The next-generation engine control is governed by a new version of ITCS, which responds quickly to sudden changes in hydraulic load to ensure that the engine runs as efficiently as possible with a minimum of wasted output.



ITCS (Intelligent Total Control System) is an advanced, computerized system that provides comprehensive control of all machine functions.

#### Auto Idle Stop Provided as Standard Equipment

This function saves fuel and cut emissions by shutting down the engine automatically when the machine is on stand by. It also stops the hourmeter, which helps to retain the machine's asset value.



#### Automatic Acceleration / Deceleration Function Reduces Engine Speed

Engine speed is automatically reduced when the control lever is placed in neutral, effectively saving fuel and reducing noise and exhaust emissions. The engine quickly returns to the previous speed when the lever is moved out of neutral.





## **Efficient Performance!**

#### **Top-Class Powerful Digging**

For more efficient work performance.

Max.	arm	crowding	force:

Max. bucket digging force:

#### Powerful Travel, Powerful Steering

A new type of travel motor boosts travel torque by 6%, and lighter machine weight improves steering performance by 10% over the previous model, for better maneuverability and crisper turns.

Travel torque:

Drawbar pulling force:

6% increase 76.8 kN {7.8 tf}

39.4 kN {4.0 tf}

52.7 kN {5.4 tf}



\*Dozer blade is optional.

#### **Dozer Simultaneous Operations**

With separate pumps for travel motor and dozer there's no hydraulic interference when traveling at top speed. Dozer operation is fast, rugged and stress-free.

#### N&B Hosing (option)

Nibbler & Breaker specs are fitted optionally. The selector valve, located inside the right side cover, can be accessed from the ground. Hydraulic flow to attachments is controlled from the cab.





Selector valve

Attachment selector switch





#### **Excellent Working Ranges**

Greater working ranges with class-topping vertical digging depth.



#### **Great Swing Power, Short Cycle Times**

Powerful swing power and top-class swing speed.

Swing torque: Swing speed: 19.1 kN • m 11.5 min<sup>-1</sup>

#### Requires 3.0 m of Working Space

The compact design allows the machine to perform continuous dig, 180° swing and dump operations within a working space of 3.0 m.



Working radius equals the sum of the minimum front swing radius and tail swing radius.

#### **Mild Operating Sound**

The iNDr cooling system also helps to keep the machine quiet, even at close quarters.

#### Meets EMC (Electromagnetic Compatibility) Standards in Europe

Electrical shielding ensured that the machines clear all European standards and neither cause or are affected by electromagnetic interference.



## Fast, Accurate and Low-Cost Maintenance

Easy access to cooling units

Left side

#### Comfortable "On the Ground" Maintenance

All of components that require regular maintenance are laid out for easy access. Newly designed, the bonnet opens widely and at lower level.

And in a new layout, equipment that requires maintenance is positioned in easily accessible locations. The servicing jobs can be completed from ground or in the cab.



Double element air cleaner

Easy access to engine



Radiator reservoir tank





Water separator Hydraulic pump



#### **Fast Maintenance**



Fuel tank equipped with bottom flange and large drain valve



Hour meter can be checked while standing on the ground



Easy-access fuse box. More finely differentiated fuses make it easier to locate malfunctions.



Washer fluid tank located under the cab floor mat.

#### iNDr Means Easy Maintenance

#### **iNDr Filter Blocks Out Dust**

Outside air goes directly from the intake duct through the iNDr filter for dust removal. The filter features a 60-mesh screen, which means it has sixty holes per inch both vertically and horizontally, with a wide front surface area accordion structure that resist clogging.







#### **Visual Checking and Easy Cleaning**

When checking and cleaning the cooling system, one must deal with several different components like the radiator, oil cooler and intercooler, which all must be handed in different ways. But with the iNDr filter, there's just one filter in one place. If it looks dirty during start-up inspection, it can be cleaned easily and quickly.



#### Long-Interval Maintenance

Long-life hydraulic oil reduces cost and labor.

#### **Super-Fine Filter**

High-performance, super-fine filter has a 1,000 hour replacement cycle.



#### **Double-Element Air Cleaner**

The high-performance air cleaner has twice the capacity and service life of previous air cleaners and is installed behind the iNDr filter for even more effective cleaning performance.

#### Monitor Display with Essential Information for Accurate Maintenance Checks

- Displays only the maintenance information that's needed, when it's needed.
- Self-diagnostic function that provides early-warning detection and display of electrical system malfunctions.
- Record function of previous breakdowns including irregular and transient malfunction.

#### Choice of 16 Languages for Monitoring Display

With messages including those requiring urgent action displayed in the local language, users in all parts of the world can work with greater peace of mind.

#### Easy Cleaning

Detachable two-piece floor mat with handles for easy removal. A floor drain located under floor mat.



- Internal and external air conditioner filters can be easily removed without tools for cleaning.
- Special crawler frame designed is easily cleaned of mud.







#### **Big Cab**



c SR

The "Big cab" provides a roomy operating space with plenty of legroom, and the door opens wide for entry and exit. As well as giving a wide, open view to the front, the cab has increased window areas on both sides and to the rear, for improved visibility in all directions.

#### **Excellent Visibility**

Taking out the right-side cab support to make a single window has improved visibility to the right.



#### Wide-Access Cab Aids Smooth Entry and Exit

Easy entry and exit assured with wider cab entry and safety lock lever integrated with mounting for control levers.



 $\% \mbox{Photos}$  in this page may contain the optional specs.



#### **Comfortable Operating Environment**



Double slide seat



•Powerful automatic air conditioner



 One-touch lock release simplifies opening and closing front window



Reclining seat



 Two-speaker FM/AM radio with station select



•Travel speed select switch \*\*The switch is equipped with the dozer lever. (Option)

## ntrate on the Job at Hand!



#### **ROPS** Cab

The newly developed, ROPS (Roll-Over-Protective Structure)-compliant cab clears ISO standards (ISO-12117-2: 2008) and ensures greater safety for the operator should the machine tip over.





Spacious luggage tray



Large cup holder

#### Always Easy to Read! New Information Display



Large gauges with large numbers and letters and glare-reducing visors are always easy to read regardless of working conditions.

## Safety Features That Take Various Scenarios into Consideration



 Firewall separates the pump compartment from the engine



Hammer for emergency exit

- Hand rails meet European standards
- Thermal guard prevents contact
- with hot components during engine inspections



 Retractable seatbelt requires no manual adjustment



## The Revolutionary Integrated Noise and Dust Reduction Cooling System

#### **Ultimate Low Noise**

KOBELCO's exclusive iNDr Cooling System delivers amazingly quiet operation. In fact the SK75SR is 5 dB quieter than the value designated by the Japanese governments requirement for ultra-low-noise machinery.



#### The iNDr revolution



#### Concept

KOBELCO has developed the revolutionary integrated Noise and Dust Reduction Cooling System, with the engine compartment placed inside a single duct that connects the air intake to the exhaust outlet.



#### Reduces Noise

The intake and exhaust are offset, with the holes and joints in the sections corresponding to the duct wall completely covered to reduce noise at the intake and exhaust apertures. This design, plus the generous use of insulation-material inside the duct, minimizes engine noise.



#### •Reduces Dust

The high-performance iNDr filter removes dust from the intake air, ensuring a quieter, cleaner engine and keeping the cooling unit free of clogging so that no regular cleaning is necessary.

## **Specifications**



#### Engine

Model	ISUZU AU-4LE2X
Туре:	Direct injection, water-cooled, 4-cycle diesel engine With turbocharger, intercooler (Complies with EU (NRMM) Stage IIIA, US EPA Tier III, and act on regulation, etc. of emission from non-road special motor vehicles (Japan))
No. of cylinders:	4
Bore and stroke:	85 mm x 96 mm
Displacement:	2.179 L
Poted power output:	42 kW /2,200 min <sup>-1</sup> (IS014396: Without fan)
nateu power output.	41 kW /2,200 min <sup>-1</sup> (IS09249: With fan)
Max torque:	211 N m/1,600 min <sup>-1</sup> {rpm} (IS014396: Without fan)
Max. torque.	210 N m/1,600 min <sup>-1</sup> {rpm} (ISO9249: With fan)

## Hydraulic System

Pump	
Туре:	Two variable displacement pumps + one gear pump
Max. discharge flow:	$2\times 66$ L/min, 1 $\times$ 18 L/min
Relief valve setting	
Boom, arm and bucket:	32.9 MPa {335 kgf/cm <sup>2</sup> }
Travel circuit:	29.4 MPa {300 kgf/cm <sup>2</sup> }
Dozer blade circuit:	22.1 MPa {225 kgf/cm <sup>2</sup> }
Swing circuit:	24.5 MPa {250 kgf/cm <sup>2</sup> }
Control circuit:	5.0 MPa {50 kgf/cm <sup>2</sup> }
Pilot control pump:	Gear type
Main control valves:	12-spool
Oil cooler:	Air cooled type

## Swing System

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Swing motor:	Axial piston motor

Brake:	Hydraulic; locking automatically when the swing Control lever is in neutral position
Parking brake:	Oil disc brake, hydraulic operated automatically
Swing speed:	11.5 min <sup>-1</sup> {rpm}
Tail swing radius:	1,290 mm
Min. front swing radius:	1,710 mm

## Travel System

Travel motors:	2 x axial-piston, two-step motors
Travel brakes:	Hydraulic brake per motor
Parking brakes:	Oil disc brake per motor
Travel shoes:	39 each side
Travel speed:	5.3 / 2.6 km/h
Drawbar pulling force:	76.8 kN {7,830 kgf} (ISO 7464)
Gradeability:	70 % {35°}

## Cab & Control

#### Cab

All-weather, sound-suppressed steel cab mounted on the silicon-sealed viscous mounts and equipped with a heavy, insulated floor mat.

Control Two hand levers and two foot pedals for travel Two hand levers for excavating and swing Electric rotary-type engine throttle

## Boom, Arm & Bucket

Boom cylinder:	110 mm × 916 mm
Arm cylinder:	95 mm × 833 mm
Bucket cylinder:	80 mm × 735 mm

## **Dozer Blade (Optional)**

Dozer cylinder:	135 mm × 129 mm
Dimension:	2,300 mm (width) $\times$ 460 mm (height)
Working range:	360 mm (up) × 250 mm (down)

## Refilling Capacities & Lubrications

Fuel tank:	120 L
Cooling system:	8.5 L
Engine oil:	11 L
Travel reduction gear:	2 x 1.35 L
Swing reduction gear:	1.5 L
Hydraulic oil tank:	36 L tank oil level 85 L hydraulic system



#### Attachments

Backhoe bucket and arm combination

		Backhoe bucket					
		Standard	Narrow				Wide
	Use						
Pucket ecoepity	ISO heaped m <sup>3</sup>	0.28	0.11	0.14	0.18	0.22	0.35
Бискет сарасну	Struck m <sup>3</sup>	0.25	0.09	0.12	0.14	0.18	0.26
Opening width	With side cutter mm	750	—	480	550	650	850
	Without side cutter mm	680	400	410	480	580	780
No. of bucket teeth		4	3	3	3	4	4
Bucket weight	kg	210	190	160	170	190	<u> </u>
Combinations	1.71 m Standard arm	0	0	0	0	0	$\bigtriangleup$
	2.13 m Long arm	$\bigtriangleup$	0	0	0	0	



## Working Ranges

	·	Unit: m	
Boom	3.84 m		
Arm Range	Standard 1.71 m	Long 2.13 m	
a- Max. digging reach	6.48	6.88	
<ul> <li>b - Max. digging reach at ground level</li> </ul>	6.35	6.76	
c - Max. digging depth	4.16	4.58	
d- Max. digging height	7.41	7.75	
e - Max. dumping clearance	5.34	5.67	
f - Min. dumping clearance	2.46	2.19	
g- Max. vertical wall digging depth	3.87	4.34	
h- Min. swing radius	1.71	2.11	
i - Horizontal digging stroke at ground level	2.83	3.21	
j - Digging depth for 2.4 m (8') flat bottom	3.80	4.31	
Bucket capacity ISO heaped m <sup>3</sup>	0.28	0.22	

Digging Force (ISO 6015)		Unit: kN (kgf)
Arm length	Standard 1.71 m	Long 2.13 m
Bucket digging force	52.7 {5,370}	52.7 {5,370}
Arm crowding force	39.4 {4,020}	35.2 {3,450}

## Dimensions

Aı	m length	Standard 1.71 m	Long 2.13 m				
Α	Overall length	5,830	6,360				
В	Overall height (to top of boom)	2,520	2,490				
C	Overall width of crawler	2,300					
D	Overall height (to top of cab)	2,550					
Е	Ground clearance of rear end*	700					
E	Ground clearance*	250					



		Unit: mm
G	Tail swing radius	1,290
H	Tumbler distance	2,210
L	Ovrall length of crawler	2,830
J	Track gauge	1,850
Κ	Shoe width	450/600
L	Overall width of upperstructure	2,250
Μ	Dozer blade (up/down)**	360 (26°)/250

\* Without including height of shoe lug \*\* Dozer blade is optional.



#### **Operating Weight & Ground Pressure**

In standard trim, with standard boom, 1.71 m arm, and 0.28  $\ensuremath{\mathsf{m}}^3$  ISO heaped bucket

Shaped	Triple grouser shoes (even height)			
Shoe width mi	450	600		
Overall width of crawler mi	2,300	2,450		
Ground pressure kPa {kgf/cm	31.2 {0.32}	24.1 {0.24}		
Operating weight k	6,640	7,160		

## **Lifting Capacities**







Rating over side or 360 degrees

- A Reach from swing centerline for bucket hook
- B Bucket hook height above/below ground
- C Lifting capacities in kilograms
- \* Max. discharge pressure: 29.4 MPa {300 kgf/cm<sup>2</sup>}

SK75SR		Standard Arm: 1.71 m, Bucket: 0.28 m³ ISO heaped 210 kg Shoe: 450 mm with optional dozer blade								
A		1.5 m		3.0 m		4.5 m		At Max. Reach		
В			<b></b>		<b></b> -		<b>—</b>	Ľ	<b>—</b>	Radius
6.0 m	kg			*1,680	*1,680			*1,520	*1,520	3.15 m
4.5 m	kg			*1,950	*1,950	*1,550	1,310	*1,320	1,230	4.64 m
3.0 m	kg	*4,730	*4,730	*2,510	*2,510	1,500	1,250	1,090	900	5.34 m
1.5 m	kg			2,760	2,200	1,390	1,150	960	790	5.56 m
G.L.	kg			2,560	2,020	1,310	1,060	980	800	5.37 m
-1.5 m	kg	*4,060	*4,060	2,530	1,990	1,290	1,050	1,200	980	4.70 m
-3.0 m	kg	*2,450	*2,450	*1,700	*1,700			*1,510	*1,510	3.28 m

SK75SR		Standard Arm: 1.71 m, Bucket: 0.28 m³ ISO heaped 210 kg Shoe: 600 mm with optional dozer blade									
A		1.5 m		3.0 m		4.5 m		At Max. Reach			
		Ľ	<b>—</b>		<b>;</b>		<b>;</b>	L	<b>;</b>	Radius	
6.0 m	kg							*1,540	*1,540	3.00 m	
4.5 m	kg			*1,930	*1,930	*1,370	1,320	*1,320	1,300	4.59 m	
3.0 m	kg	*4,510	*4,510	*2,460	*2,460	1,520	1,270	1,140	950	5.33 m	
1.5 m	kg			2,790	2,790	1,410	1,170	1,000	830	5.56 m	
G.L.	kg	*1,810	*1,810	2,580	2,580	1,330	1,090	1,020	840	5.37 m	
-1.5 m	kg	*4,130	*4,130	2,560	2,560	1,310	1,070	1,260	1,030	4.68 m	
-3.0 m	kg	*2,340	*2,340	*1,600	*1,600			*1,490	*1,490	3.21 m	

SK75SR		Long Arm: 2.13 m, Bucket: 0.22 m³ ISO heaped 170 kg Shoe: 450 mm with optional dozer blade									
A B		1.5 m		3.0 m		4.5 m		At Max. Reach			
		Ľ	<b>-</b>		<b></b>	Ľ	<b>-</b>	Ľ	<b>—</b>	Radius	
6.0 m	kg							*1,330	*1,330	3.82 m	
4.5 m	kg					*1,590	1,350	1,190	1,040	5.12 m	
3.0 m	kg			*2,220	*2,220	1,530	1,270	950	790	5.76 m	
1.5 m	kg			2,820	2,260	1,400	1,160	850	690	5.96 m	
G.L.	kg			2,550	2,010	1,300	1,060	850	690	5.78 m	
-1.5 m	kg	*3,500	*3,500	2,480	1,950	1,260	1,020	1,010	820	5.17 m	
-3.0 m	kg	*3,440	*3,440	*2,150	2,010			*1,520	1,310	3.93 m	

SK75SR		Long Arm: 2.13	Long Arm: 2.13 m, Bucket: 0.22 m <sup>3</sup> ISO heaped 170 kg Shoe: 600 mm with optional dozer blade									
A		1.5 m		3.0 m		4.5 m		At Max. Reach				
В		Ľ	<b>—</b>		<b>—</b>		<b>—</b>	Ľ	<b>;</b>	Radius		
6.0 m	kg							*1,350	*1,350	3.70 m		
4.5 m	kg					*1,580	1,360	*1,190	1,100	5.07 m		
3.0 m	kg			*2,180	*2,180	1,540	1,290	1,000	830	5.74 m		
1.5 m	kg			2,850	2,290	1,420	1,180	880	730	5.96 m		
G.L.	kg	*1,800	*1,800	2,580	2,040	1,320	1,080	890	730	5.78 m		
-1.5 m	kg	*3,570	*3,570	2,510	1,980	1,280	1,040	1,060	860	5.16 m		
-3.0 m	kg	*3,320	*3,320	*2,070	*2,050			*1,510	1,400	3.87 m		

#### Notes:

- Do not attempt to lift or hold any load that is greater than these lift capacities at their specified lift point radius and heights. Weight of all accessories must be deducted from the above lift capacities.
- Lift capacities are based on machine standing on level, firm, and uniform ground. User must make allowance for job conditions such as soft or uneven ground, out of level conditions, side loads, sudden stopping of loads, hazardous conditions, experience of personnel, etc.
- 3. Bucket lift hook is defined as lift point.

- 4. The above lifting capacities are in compliance with SAE J/ISO 10567. They do not exceed 87 % of hydraulic lifting capacity or 75 % of tipping load. Lifting capacities marked with an asterisk (\*) are limited by hydraulic capacity rather than tipping load.
- 5. Operator should be fully acquainted with the Operator's and Maintenance Instructions before operating this machine. Rules for safe operation of equipment should be adhered to at all times.
- Lift capacities apply to only machines as originally manufactured and normally equipped by KOBELCO CONSTRUCTION MACHINERY CO., LTD.



#### **STANDARD EQUIPMENT**

#### ENGINE

- Engine, ISUZU AU-4LE2X engine with turbocharger and intercooler
- Automatic engine deceleration
- Auto Idle Stop (AIS)
- Batteries (2 x12V 64 Ah)
- Starting motor (24 V- 3.2 kW), 30 A alternator
- Automatic engine shut-down for low engine oil pressure
- Engine oil pan drain valve
- Double element air cleaner

#### CONTROL

■ Working mode selector (H-mode, S-mode and ECO-mode)

#### SWING SYSTEM & TRAVEL SYSTEM

- Swing rebound prevention system
- Two-speed travel with automatic shift down
- Sealed & lubricated track links
- Grease-type track adjusters
- Automatic swing brake

#### **MIRRORS & LIGHTS**

- Four rear view mirrors
- Two front working lights (boom, guard)

#### **CAB & CONTROL**

- Two control levers, pilot-operated
- Horn, electric
- Integrated left-right slide-type control box
- Ashtray
- Cigarette lighter
- Cab light (interior)
- Coat hook
- Large cup holder
- Detachable two-piece floor mat
- Retractable seatbelt
- Headrest
- Arm rest
- Handrails
- Heater and defroster
- Intermittent windshield wiper with double-spray washer
- Tinted safety glass
- Pull-type front window and removable lower front window
- Easy-to-read multi-display monitor
- Automatic air conditioner
- Emergency escape hammer
- Heightrizer for control box

#### **OPTIONAL EQUIPMENT**

- Dozer blade
- Wide range of bucket
- Various optional arms
- Wide range of shoes
- Boom safety valve
- Front-guard protective structure (may interfere with bucket action)
- Additional hydraulic circuit
- Additional counterweight (+300 kg)

- Add-on type counterweight (+400 kg)
- Cab light
- Control pattern charger (2 way, 4 way)
- N&B piping, N&B selector
- 7-way adjustable suspension seat
- Radio, AM/FM Stereo with speaker

Note: This catalog may contain attachments and optional equipment that are not available in your area. And it may contain photographs of machines with specifications that differ from those of machines sold in your areas. Please consult your nearest KOBELCO distributor for those items you require. Due to our policy of continuous product improvements all designs and specifications are subject to change without advance notice. Copyright by **KOBELCO CONSTRUCTION MACHINERY CO., LTD.** No part of this catalog may be reproduced in any manner without notice.

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