



KOMATSU

PC7000-11

**HYDRAULIC
EXCAVATOR**



WE CREATE

YOUR FUTURE

WE CONSTANTLY IMPROVE OUR PRODUCTS FOR YOUR SATISFACTION

WE SET THE RIGHT COURSE FOR YOUR FUTURE

Komatsu Germany is the Komatsu manufacturing plant for ultra-large hydraulic mining excavators. We convince with 110 years of experience and quality made in Germany. The combination of Japanese and German values, e.g. engineering superiority and highest safety standards as well as manufacturing accuracy, are the unique selling points of our machines.

The brand Komatsu is a worldwide synonym for high quality, achieved through continuous product development, innovation and reliability. We strive to be the technology leader and to give a promising future to our customers.

As a globally acting OEM of ultra-large hydraulic excavators, you can expect challenging assignments allowing you to plan and develop your daily business actively. That is why we are driven by the constant pursuit of increasing the efficiency of your mine.



WE PROVIDE

SOLUTIONS

WE ARE THE KEY TO YOUR SUCCESS

PC7000-11

The PC7000-11 comes with the latest technology on board. Features like the Simplified System, Komtrax Plus 2 and several safety improvements like the 45° access system, additional handrails, rescue hatch and the unrivalled emergency egress ladder are the results of continuously engineering processes improvements of Komatsu.

Combined with the latest maintenance and productivity features, the PC7000-11 results in higher production, reliability improvements, enormous safety results, fewer maintenance activities, operation monitoring and big data analysis for the mine manager and operator.

04 INTRODUCTION

06 SIMPLIFIED SYSTEM

08 KOMTRAX PLUS 2

10 KOMVISION

12 PAYLOAD METER

14 OPERATOR'S CAP

16 SAFETY FEATURES

18 SPECIFICATIONS

22 COMPANY



WE ENHANCED THE PC7000-11 WITH STUNNING FEATURES AND BENEFITS

HIGHER TON PER HOUR

RELIABILITY IMPROVEMENTS

IMPROVED SAFETY

PAYLOAD OPTIMIZATION

OPERATION MONITORING



Real Benefits

KOMATSU

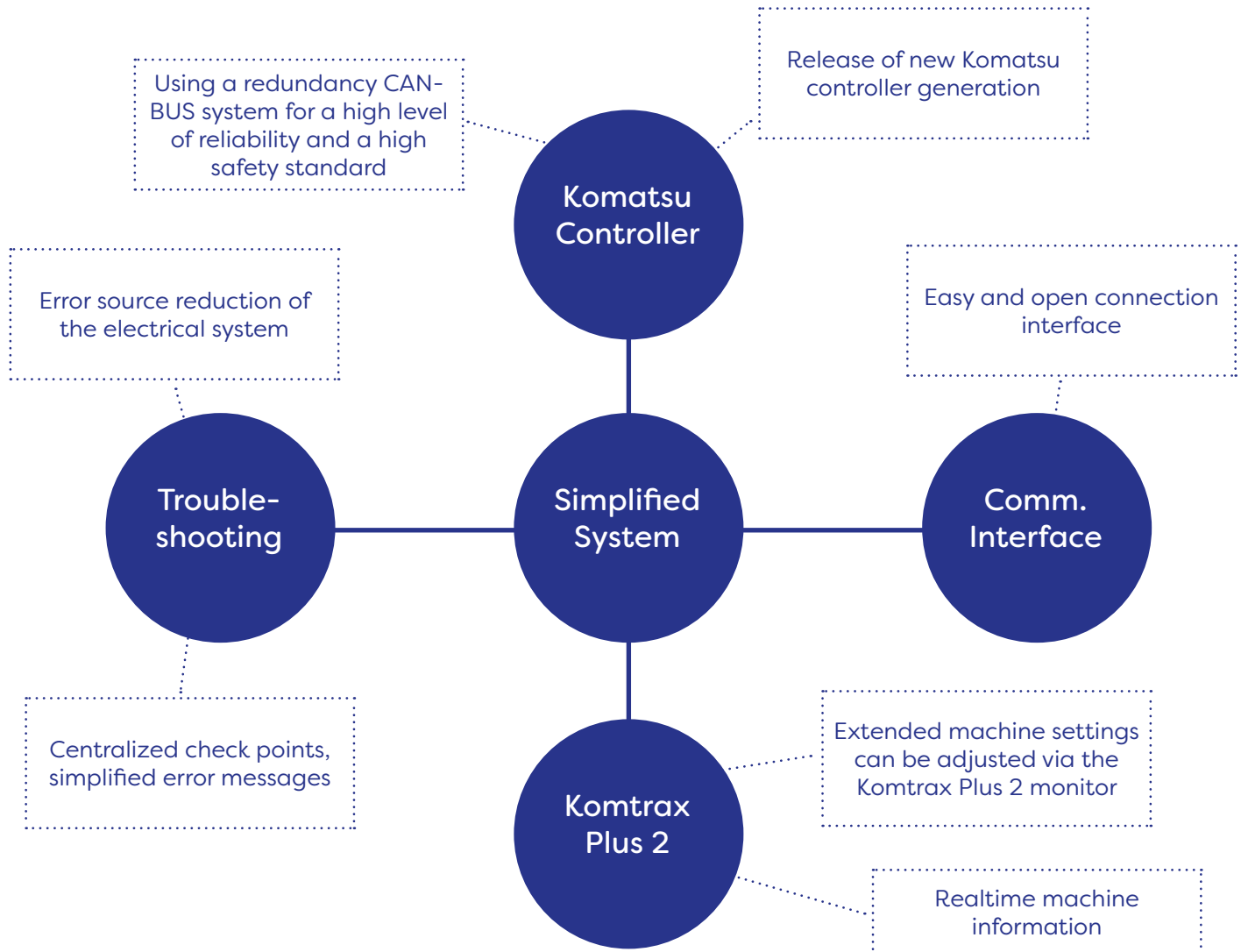


WE SIMPLIFIED THE

SYSTEM OF THE MACHINE

FOR YOUR ADVANTAGE

KOMATSU



EASIER MAINTENANCE

The simplified system is a result of engineering power. Saving of electrical parts as well as no need for additional node boxes and the release of new controller generation.

Added to this, we worked on a well structured, clean and lean electrical switch cabinet. The relays and connectors are placed in a separated sealed switch cabinet. We enhanced the extended machine settings to adjust via the Komtrax Plus monitor in the cabin. We developed new sensors for measuring data. Thus, we can show every error on the machine for real-time maintenance.

Through our new developments, customers have a simplified troubleshooting, higher availability and lower cost per tone. This is simplicity.



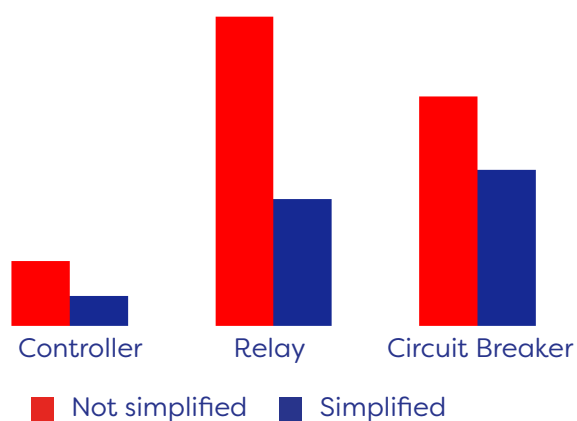
SIMPLIFIED

EVERYWHERE

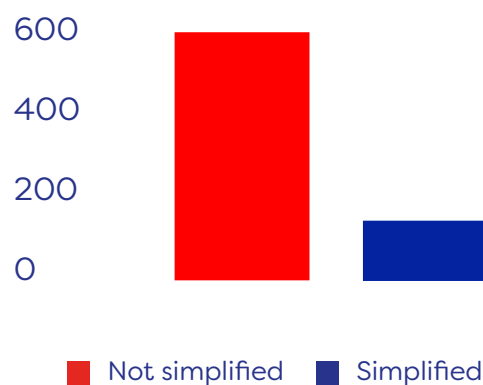
PRECISE DESIGN AND RICH DATA, SHORTEN MAINTENANCE TIME

Our goal was to reduce and simplify the electrical system. As a result of it, we reduced the random harnesses. Using a redundancy CAN-BUS system for a high level of reliability and a high safety standard due to the redundancy control lines. Extended machine settings can be adjusted via the Komtrax Plus monitor in the cabin. The PC7000-11 provides a tidied up, simplified system which helps the customer to have an easier access to the harnesses and a better troubleshooting support.

LESS ELECTRICAL COMPONENTS



DOWNTIME REDUCTION



THE EFFICIENT MONITORING SYSTEM

KOMTRAX PLUS 2 IS A STUNNING OPTION FOR THE PC7000-11

KOMTRAX PLUS 2 CONSISTS OF

Abuse detection (Optional)

- Alert system
- Safety pop-ups

Error history

- Analysis of errors
- Preventive maintenance

Troubleshooting

- Komatsu built controller
- Availability improvement

PLM (Optional)

- Truck shovel optimization
- Production improvements

ABUSE DETECTION SYSTEM



Error history data list



Banging cylinder
warning



Bulldozing with bucket
alert warning



Hitting tracks
warning



KOMTRAX PLUS 2

IS A BREAKTHROUGH TO

ENHANCE YOUR PRODUCTIVITY

KOMATSU

THE

PROTECTION

SYSTEM



THE PC7000-11 HAS THE ALL-AROUND-VIEW KOMVISION FEATURE ON BOARD

WE PROTECT THE OPERATION

Safety is a big point for every customer of us. KomVision helps to reduce the accidents in the pit and it provides a better feeling for the operators.

KomVision is one of our key features regarding the safety. It helps to protect the operator from any danger. Several cameras on and around the excavator are mounted to grant the most possible amount of safety.

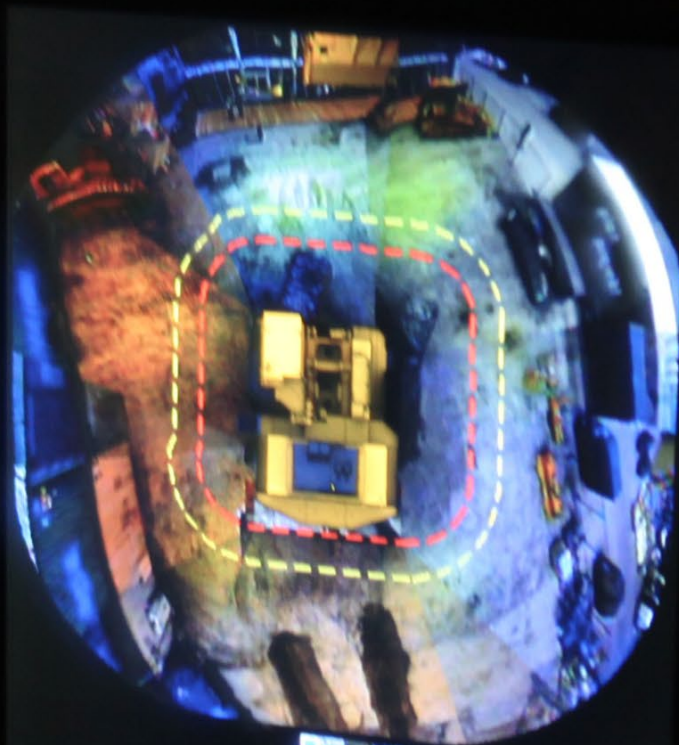
Marked areas around the excavators highlighted safety area, working area and the dumping area. The operator recognizes any movement of foreign objects in his working area. He is able to react.

All units of the seven implemented cameras are available for a single view to a detailed image of the surrounding.

... TO HAVE A

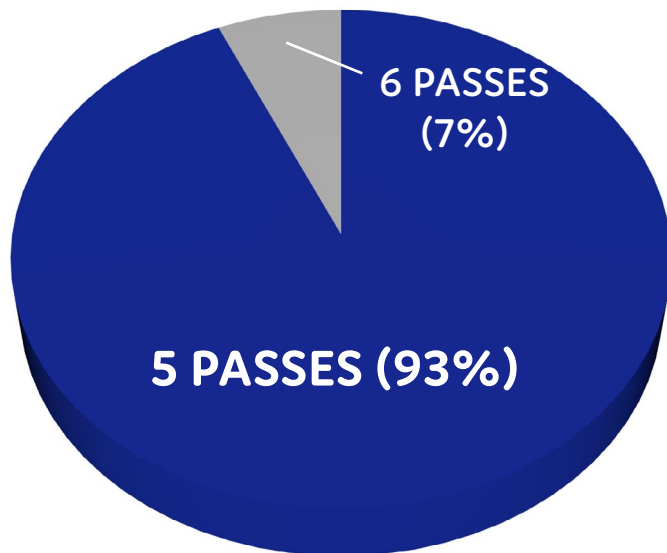
BIRDS-EYE-VIEW

OF THE EXCAVATOR

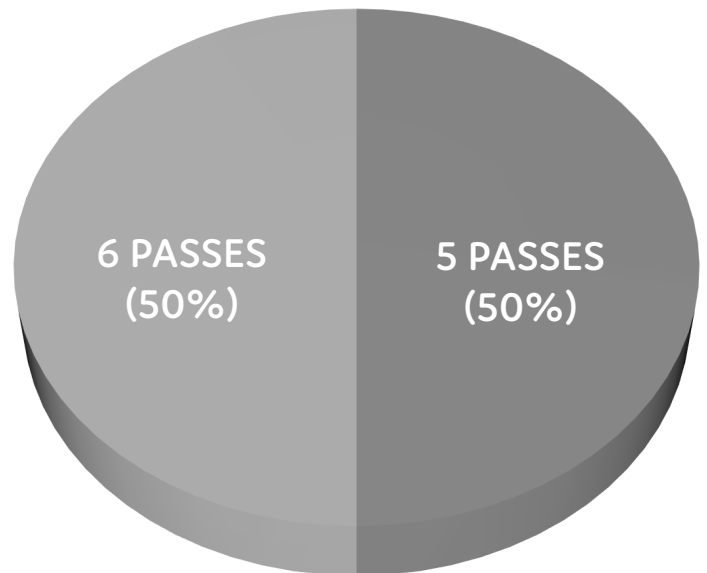


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POSSIBLE PASSES WITH PLM



POSSIBLE PASSES WITHOUT PLM



*5 passes are the target

THE PLM IS ENHANCING THE PRODUCTIVITY OF EACH OPERATOR

PRODUCTIVITY WILL BE INCREASED



The Payload Meter is a measuring tool to identify the bucket payload. Due to the immediately shown bucket payload the operator is able to load the truck more efficient. Reduced truck loading time due to decreased required passes per truck.

The payload meter system will be integrated into the Komtrax Plus 2 monitoring system. Reporting via Komtrax Plus 2 will show the payload history as well as improved data. The PLM is a helpful tool for data analysis and helps the mine manager to plan their fleets.



PAYLOAD METER ENABLES

REAL TIME INPUT

TRUCK DATA

KOMATSU



INTERIOR VIEW OF THE CABIN



A PLACE TO FEEL COMFORTABLE



EXTERIOR VIEW OF THE CABIN

COMFORTABLE CABIN

The large and comfortable cab is mounted on 18 viscous damping pads and is sound insulated. The cabin has automatic climate control and is pressurised. The operator's seat is air-suspended, electrically heated and has a two-point seatbelt and offers multiple adjustments. The second seat is also equipped with a seat belt. Low-effort joystick controls are electrohydraulic with foot pedals for front shovel clam, crawler and swing brake.

OPERATOR CUSTOMIZED

Full instrumentation, KOMTRAX Plus and an AM/FM radio with MP3 ready CD player with AUX in is installed. The windshield wiper has two speeds and intermittent operation. Amenities include a refrigerator and storage cabinets. Heated mirrors are adjustable from inside the cab. External metal sun blinds on the cab side window and internal roller blinds on all windows are standard. The left-hand window is an emergency exit. All windows are tinted parsol green. The cab has a special penetration proof front window (acc. DIN EN1063, resistance classification BR2-S) to increase the safety level of the operator. There is a walkway around the cabin.

ISO CERTIFIED SAFETY

- FOPS-test standard certified
- ISO 10262 - Earth-moving machinery
 - Hydraulic excavators - Laboratory tests and performance requirements for operator protective guards
- ISO 6394 - Determination of emission sound pressure level at operator's position - Stationary test conditions
- ISO 10263-4 Heating and air conditioning - Second heater or air second conditioner as an option



YOU WILL BE

THRILLED BY THE

EASY OPERATION

KOMATSU

ACCESS SYSTEM

The access system has been newly designed to grant the best safety conditions for the operator. The access and egress system is designed to meet the highest standards in comfort and safety. The 45° stairway system allows the operator and the maintenance staff comfortable and safe access to the machinery house level and cab level. The stairway system with steps made of anti-slip gratings and an additional anti-slip edge are the main features.

EMERGENCY EXIT

An unique emergency egress system allows the operator to escape from the machine in case of an emergency event. The newly developed two solid flip-down emergency ladders will enable a way out from each side of the excavator. The emergency hatch which enables the escape from the machinery house up to the roof is also a part of the emergency egress system. It is unique in our excavator class and makes our machines safer. All this results in an unrivalled safety for the operator and the maintenance staff.

MAINTENANCE

Wide walkways to the regular service points, proper platforms equipped with handrail and kickboards as well as easy access to all service points provide a high safety standard for maintenance. When we simplified the maintenance, one of the primary focuses was the accessibility and safety during servicing and the accessibility for maintenance activities. The working space in the machinery house had been extended, the first stage fuel filter had been removed into the fuel tank structure and is to reach from the machinery house easy.



45° ACCESS STAIRWAY SYSTEM



EMERGENCY RESCUE HATCH



SIMPLIFIED MAINTENANCE



WE HAVE THE

RESPONSIBILITY TO

PROVIDE THE SAFEST PRODUCTS

KOMATSU



KOMATSU



THE PC7000-11 IS THE MOST ADVANCED EXCAVATOR YOU CAN GET IN

A GROUNDBREAKING EXCAVATOR

The PC7000 is available with the latest diesel technology as -11 and with electric drive as -6. The PC7000-11 offers two Komatsu SSDA16V159E-2 Tier 2 engines which are rated 2 x 1250 kW 1,675 HP @ 1,800 rpm and an electronic engine management.

The features of the engine are electronic engine management, low engine emission levels, optional cost savings engine oil management system called „Centinel“, engine reserve oil supply and eliminator oil filter system.

The operating weight ranges from 676 - 694 tons (1,490,600 - 1,530,300 lbs). The shovel capacity is about 36 m³ (47 yd³) SAE 2:1 heaped. The backhoe capacity is about 36 m³ (47 yd³) SAE 1:1 heaped. The PC7000 matches from 200 to 320 U.S. ton trucks for the best productivity.

MATCHES:

The right truck match matters when having certain production goals. Komatsu helps you to determine the shovel for your truck.

Passes per Truck	Short tons	PC7000
730E	200	3
830E	240	4
930E	320	5

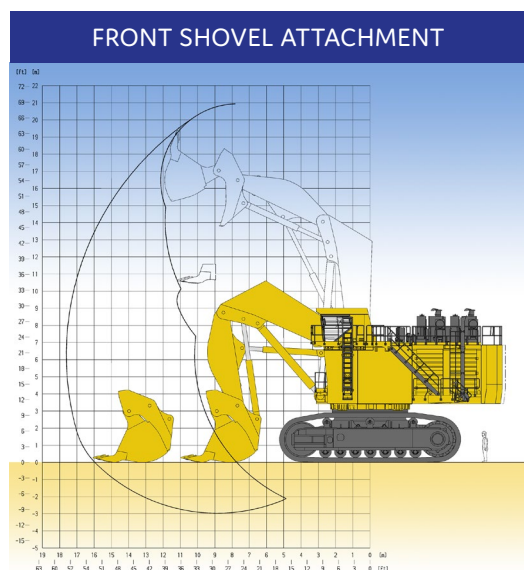
ATTACHMENTS:

Operating weight including 11,000 mm (36'1") boom, 5,100 mm (16'9") stick, 36 m³ (47 yd³) backhoe bucket, operator, lubricant, coolant, 1/3 fuel and standard equipment.

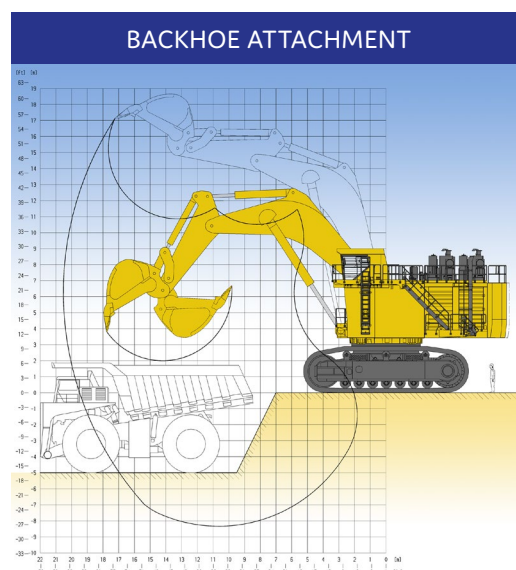
Type	Shoe width	Operating weight	Ground pressure
Backhoe	1,500 mm (59")	682 t (671,090 lb)	25.3 N/cm ² (36.6 psi)
Backhoe	1,900 mm (75")	692 t (680,930 lb)	20.3 N/cm ² (29.4 psi)

Operating weight including 8,000 mm (26'3") boom, 5,500 mm (18'1") stick, 36 m³ (47 yd³) shovel bucket, operator, lubricant, coolant, 1/3 fuel and standard equipment.

Type	Shoe width	Operating weight	Ground pressure
Front Shovel	1,500 mm (59")	673 t (662,230 lb)	25.0 N/cm ² (36.2 psi)
Front Shovel	1,900 mm (75")	683 t (672,070 lb)	20.0 N/cm ² (29.0 psi)



Boom length	Stick length
8,000 mm (26'3")	5,500 mm (18'1")
Max. cutting height	Max. dumping height
20,940 mm (68'8")	13,760 mm (45'2")
Max. digging depth	Max. digging reach
2,970 mm (9'9")	17,620 mm (57'10")
Break-out force (ISO)	Crowd force (ISO)
2,086 kN (468,870 lb)	2,147 kN (482,580 lb)



Boom length	Stick length
11,000 mm (36'1")	5,100 mm (16'9")
Max. digging height	Max. dumping height
17,130 mm (56'2")	10,860 mm (35'8")
Max. digging depth	Max. digging reach
8,340 mm (27'4")	20,530 mm (67'4")
Break-out force (ISO)	Tear-out force (ISO)
1,692 kN (391,330 lb)	1,499 kN (340,080 lb)



DIESEL DRIVE -11

Model	2 x Komatsu SSDA16V159E-2
Type	4-cycle, water-cooled, dir. injection
Aspiration	Turbocharged and aftercooled
Number of cylinders	16
Rated power (SAE J1995)	2 x 1,250 kW 1,675 HP @ 1,800 rpm
Governor	All-speed, electronic

The integrated engine oil and filter system combining the oil stabilising systems, Reserve and Centinel, with Eliminator oil filter extends the oil change interval up to 4,000 hours based on oil analysis. The high capacity Mesabi engine radiators are cooled by a hydraulically driven fan for superior cooling efficiency.



ELECTRIC SYSTEM (DIESEL)

System	24 V
Batteries (series/parallel)	8 x 12 V
Alternator	2 x 140 A
Standard working lights	16 LED lights
Standard service lights	Throughout the platform including emergency egresses and stairways



UNDERCARRIAGE

Undercarriage consists of one centre carbody and two track frames, each side attached by high torque bolts.

Centre frame	H-type
Track frame	Steel box-section



CRAWLER ASSEMBLY

Track adjustment	Automatic hydraulic type
Number of track shoes	48 each side
Number of top rollers	3 each side
Number of bottom rollers	7 each side



TRAVEL AND BRAKE SYSTEMS

Gradeability	Up to 50%
Travel speed (maximum)	2.5 km/h 1.55 mph
Service brake	Hydraulic brake
Parking brake	Multiple-disc



SWING SYSTEM

Hydraulic motors and drives	3
Swing brake, service	Hydraulic brake
Swing brake, parking	Multiple-disc
Swing ring teeth	External
Swing speed	3.1 rpm



ELECTRIC SYSTEM (ELECTRIC)

System	24 V
Batteries (series/parallel)	4 x 12 V
Battery charger	3 x 100 A
Standard working lights	16 LED lights
Standard service lights	Throughout the platform incl. emergency egresses and stairways



ELECTRIC DRIVE -6

Type	2 x squirrel cage induction motor
Power output	2 x 1,200 kW
Voltage	6,000 - 7,200 V *(other on request)
Amperage (approx.)	2 x 128 A - 2 x 107 A
Frequency standard	60 Hz @ 1,800 rpm
Frequency option	50 Hz @ 1,500 rpm



HYDRAULIC SYSTEM

The power train consists of two main drives. Each of the two gearboxes drives three identical pumps which draw hydraulic oil from an unpressurised hydraulic tank. Open circuit hydraulics provide maximum cooling and filtering efficiency.

Rated flow (total output)	6,210 ltr/min 1,640 gpm
Relief valve setting	310 bar / 4,495 psi
Swing flow rate	1,035 ltr/min / 273 gpm
High pressure in line filters one per pump located at the valve blocks	200 microns
Full flow return line filters at head of hydraulic tank	10 microns
Case drain/by-pass return line filters	3 microns

The four-circuit system features a load-limiting governor with oil delivery summation to the working circuits and incorporates pressure cut-off control. Hydropilot prioritises hydraulic flow giving smooth hydraulic response, simple hydraulic system layout, and a reduced number of components. The hydraulic system includes large swing-out vertical air-to-oil hydraulic coolers with temperature-regulated hydraulically driven fans.



AUTOMATIC CENTRALISED LUBRICATION

Three hydraulically powered Lincoln single line automatic lubrication systems are provided as standard, complete with time and volume variable controls. The two central lubrication circuits and open gear grease circuit are supplied by identical pump assemblies from refillable containers which have a capacity of 1x 600 and 1x 300 litres (total 238 gal). Replenishment of the containers is through the Wig-gins connections on the service arm.



SERVICE CAPACITIES

Hydraulic oil tank	4,750 ltr / 1,255 U.S. gal
Hydraulic system	9,500 ltr / 2,510 U.S. gal
Fuel	13,033 ltr / 3,443 U.S. gal
Engine coolant	2 x 440 ltr / 2 x 116 U.S. gal
Engine oil	2 x 236 ltr / 2 x 62 U.S. gal
Reserve engine oil make up tank	2 x 665 ltr / 2 x 176 U.S. gal
Lubrication system (total)	900 ltr / 238 U.S. gal



COMFORT AND ENVIRONMENT

Vibrations levels	
Hand-lever (ISO 5349-1)	lower than 2.5m/s ²
Whole body vibration and shock (ISO 2631-1)	below 0.5m/s ²

Contains fluorinated greenhouse gas HFC-134a (GWP 1430)

PC7000-11 D Quantity of gas 5.5-10.0 kg, CO₂ equivalent 7.86-14.30t

PC7000-6 E Quantity of gas 7.9-12.4 kg, CO₂ equivalent 11.29-17.73t



110 YEARS

OF VALUES AND

EXPERIENCE

OUR MOTIVATION IS TO KEEP THE RAW MATERIALS SUPPLY RUNNING

OUR TRADITIONS AND VALUES

Komatsu Germany GmbH is a proud member of the Komatsu Group, one of the largest manufacturers of mining and construction equipment worldwide. In Düsseldorf we are specialized in hydraulic mining excavators.

Today we manufacture five types of hydraulic excavators of between 254 - 773 tons and bucket volumes up to 42 cubic meters in either front shovel or backhoe configuration. Since many of our excavators are used in the most inhospitable regions in the world, with extreme temperatures and under the harshest conditions, we are above all focused on providing quality and reliability.

Nearly 90% of the units we sold in the last 35 years have been supplied to repeat customers. That fact shows our superior quality in manufacturing and our superior service. The oldest currently operating unit with the most working hours is an excavator of the former PC4000 type, which has worked nearly 156,000 hours, that means the equivalent of more than 25 years of continuous service 24/7/365.



WE ARE

DÜSSELDORF

WE ARE PROUD TO HAVE BEEN BASED IN DÜSSELDORF FOR DECADES

OUR MILESTONES IN DÜSSELDORF

Since the 1930s we have been a production plant in Düsseldorf Benrath. Since then, we have continuously set milestones, year after year. Thanks to the excellent infrastructure and the proximity to the port and airport, we can ship every item in record time. We have been proud to be a part of Düsseldorf for almost 80 years. Since 1980 we have manufactured more than 1,050 excavators, more than 70% of which are still in operation.

In 2017 we opened the „Technical Center“ office building. The Technical Center is a landmark in Düsseldorf Benrath and includes attractive leisure programs and an open-space working area. The great atmosphere results in unrivaled customer service.

We train apprentices, offer further education to our trainees and our employees to develop that knowledge and to keep up to date with the latest state-of-the-art technologies. We live the legendary „SLQDC“ philosophy through all processes and departments to achieve to build the best excavator for our customers' mine.

KOMATSU GERMANY
MINING DIVISION

KOMATSU-MINING.DE

KOMATSU

