

Hydraulic Excavator RH 120-E



Service weight		282 t
Engine output		1008 kW
Face shovel (SAE 1:1)		17 m ³
Backhoe (SAE 1:1)		15 m ³

The new RH 120-E: yet heavier, yet stronger, yet better

Average production 2,100 t/h.

In open pit mining the RH 120 is almost a legend. More than 220 units are successfully working in applications worldwide.

With the RH 120-E, O&K Mining continues this story of success by means of significant improvements and innovative developments. Comprehensive experience originates from the large O&K excavators RH 170 up to RH 400 which characterize the new design.

Operating weight and engine output were enlarged by 13 per cent, the undercarriage has been completely redesigned, an electronic-hydraulic servo control was installed and the oil cooling system has been further improved. The service accessibility has also been greatly improved.

The result: Larger bucket capacity, higher performance, easier controlling and less wear and tear.

Maintenance effort has been decreased to achieve long term availability of more than 90 per cent.



The attachment's steel construction is designed for severe applications. All pivot points are supported by large-dimensioned castings.

Up to 17 m³ – face shovel or backhoeel

Depending on the working conditions, the RH 120-E can be equipped with shovel or backhoe attachment.

Together with the TriPower advantages the individually designed face shovel ensures best penetration even in tough and interlocked materials. An unusual high filling degree is guaranteed without backspill. 100 sht – trucks are loaded with four passes and peak production up to 3100 t/h is possible.



The design of the attachment has been optimized especially with the backhoe version. The cylinder diameters were increased, to achieve 14 per cent growth in digging forces, which is beneficial especially in direct digging operations.

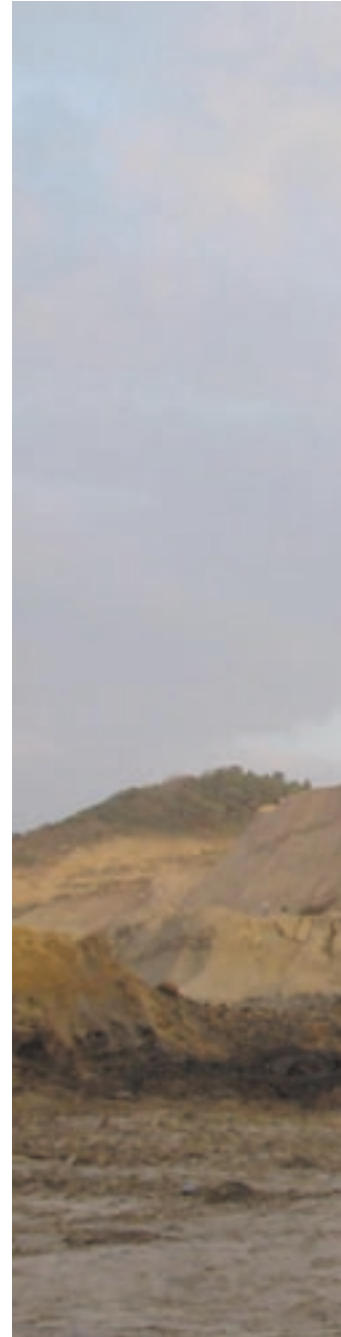
The RH 120-E is assigned for highest performance. Bucket size and kinematics are the benchmark in this excavator class.



Conformity with the EEC Machinery Directive permits the attachment of the CE sign.



O&K was the first German manufacturer of excavators to be certified for compliance with DIN EN ISO 9001.





A workplace that boosts productivity. Including electronic-hydraulic servo control.

Ample space, easy control

The cabin of the RH 120-E has been increased in width by another 300 mm compared to its predecessor. It provides maximum space and comfort. The operator has an excellent view over the entire working area thanks to an eye level of 6.1 m. The comfortable and pneumatically cushioned seat is individually adjustable to all functional and ergonomic requirements.

The joystick control according SAE standard allows fast, safe and exact loading.

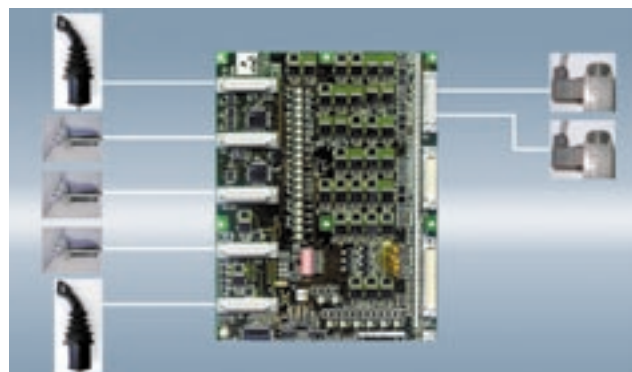
These conditions encourage the readiness for a high level performance which can be achieved over long periods without stress and fatigue.

Fast service and high availability via BCS

All operation and service data are monitored and checked by the Board-Control-System and can be displayed on the screen. Therefore all important information is clearly visible, any irregularities are immediately detected and the operator is alerted visually and audibly.

Unique fine control by electronic hydraulic servo control

All servo functions are computer-controlled for precise working if required. Moreover the amount of hydraulic hoses is reduced and trouble shooting is eased.



Excellent accessibility for fast service



Pump Managing System PMS improves performance preserves components

The patented PMS ensures an optimized power adaption between the hydraulic power demand and power output of the engines. Therefore overloading of the engines is avoided. PMS permanently compares measured operating data with set values and fine tunes pump flow for ultimate performance, to achieve constant engine speed.

Additionally PMS combines automatic revolution reduction, zero oil flow and flow on demand.

Intelligent Cummins-engines with diagnostic-system

The Cummins developed electronic engine management CELECT provides low operating costs with high life expectancy at the same time. This system also guarantees compliance to all existing emission regulations world-wide.

Double independent oil cooling system

The O&K hydraulic oil cooling is independent from all main circuits. Two individual thermostatically controlled circuits for fan drive and cooler oil flow provide optimized cooling even at idle

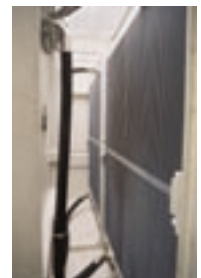
times. Together with the patented twin-chamber hydraulic tank highest cooling efficiency is guaranteed. This helps to keep the hydraulic oil at an ideal temperature even under extreme circumstances. Lower thermal load on the oil and higher lifetime of the hydraulic components are vital benefits.

Service-friendly modular design

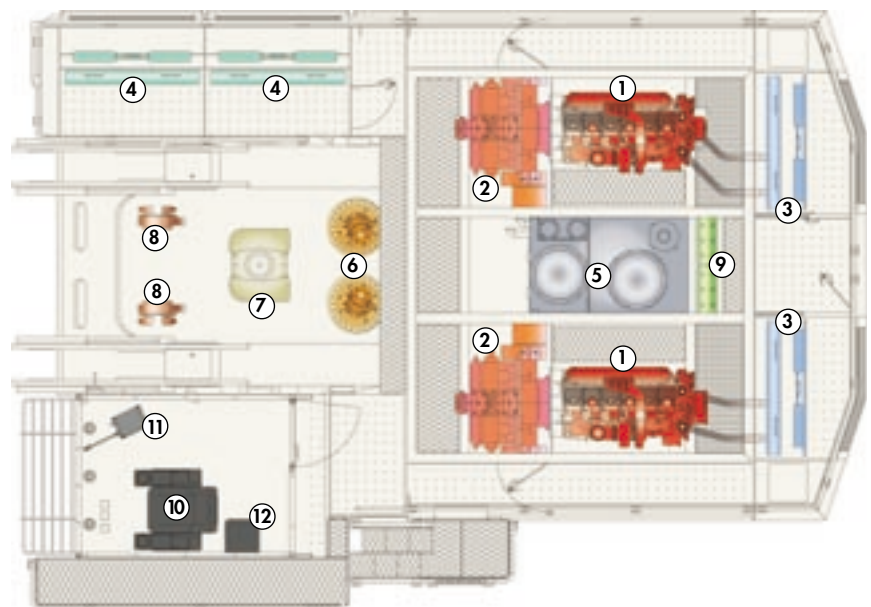
The superstructure is consequently built up in modules. Fast access to all service and maintenance points is provided by the walk through engine compartment. A retractable service station at the rear end assures convenient changing of all service fluids from the ground. The automatic hydraulically driven central lubrication system is standard and serves all grease points without exception. A compressive air system is no longer necessary.



Retractable service station at rear end



Best accessibility to all components (here: engine and oil cooler)



1. Diesel engines 2. Gearboxes with hydraulic pumps 3. Engine radiators 4. Hydraulic oil coolers 5. Hydraulic tank 6. Swing drives 7. Rotary distributor 8. Travel valves 9. Batteries 10. Operator's seat 11. BCS column 12. Auxiliary seat

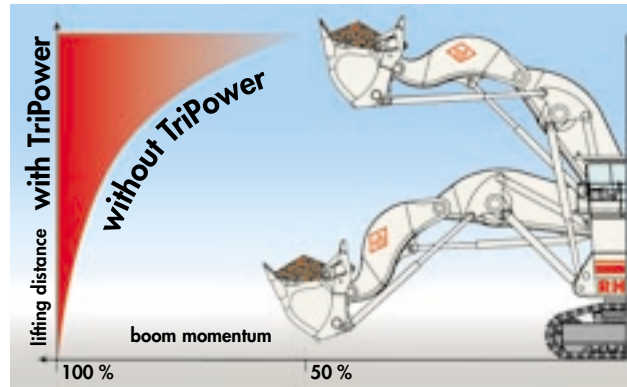
Unique TriPower geometry guarantees exceptional performance

The patented O&K triangle for maximum productivity

TriPower boosts production, eases operation and reduces wear.

The decisive advantages:

- Increasing crowd force along the entire crowd distance
- Constant bucket angle at each boom position and roll back limiter – thus permanent high fill factor
- Automatic parallel bucket guidance at all levels
- Increased lifting momentum
- Pressure free lowering of boom and stick cylinders



Only with TriPower the boom momentum remains constant over the full lifting distance. Hence power is available where it is required.



Clear pipe work and SAE flange connections at all high pressure hoses. The main valve block's position is on top of the boom and reduces hydraulic tubes from the uppercarriage to the attachment. This design creates additional space on the superstructure for outstanding access to slew gearboxes and rotary distributor.



New undercarriage for tough conditions



Encapsulated, powerful two-stage travel motors are the key for mobility. Easy access to components due to hinged doors.



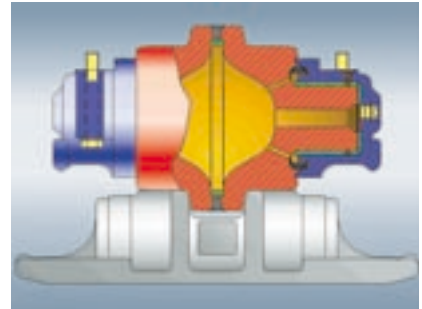
The O&K specific transmission of power avoids wear-intensive relative movement between track and sprocket.

More weight, more power

The complete field experience with the larger O&K excavators has been considerable in the development of the RH 120-E undercarriage. The flow of forces – as well as the service friendliness – are considerably improved by the installation of unilateral bearings for the travel gearboxes and their support in a one piece casting. Less welding seams in highly stressed areas and the fully hydraulic self-adjusting track tensioning system have positive effects on life expectancy. Track pad and link are combined in one unit, face pressure on the rollers and therefore wear is clearly reduced.

Each crawler is driven by two powerful hydraulic motors and can be controlled separately. Two travel speeds secure best adjustment to changing application conditions.

For superior stability the RH 120-E's centre of gravity is extremely low. The engineers had a special interest in preventing unnecessary service expenditure. Idler and all rollers are lifetime-lubricated, thus the complete undercarriage is nearly maintenance-free.



The new layout of the bottom rollers on the RH 120-E is reflected in reduced face pressure. The introduction of new materials and a high performance lubricant improves lifetime.



RH 120: world-wide the no.1 in its class



Terex Germany GmbH & Co. KG
Karl-Funke-Str. 36 · D-44149 Dortmund
Phone ++49 231/922-3 · Fax ++49 231/922-5800
E-mail: info@terex-ok.de

websites: www.terex-ok.com www.terex.com

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