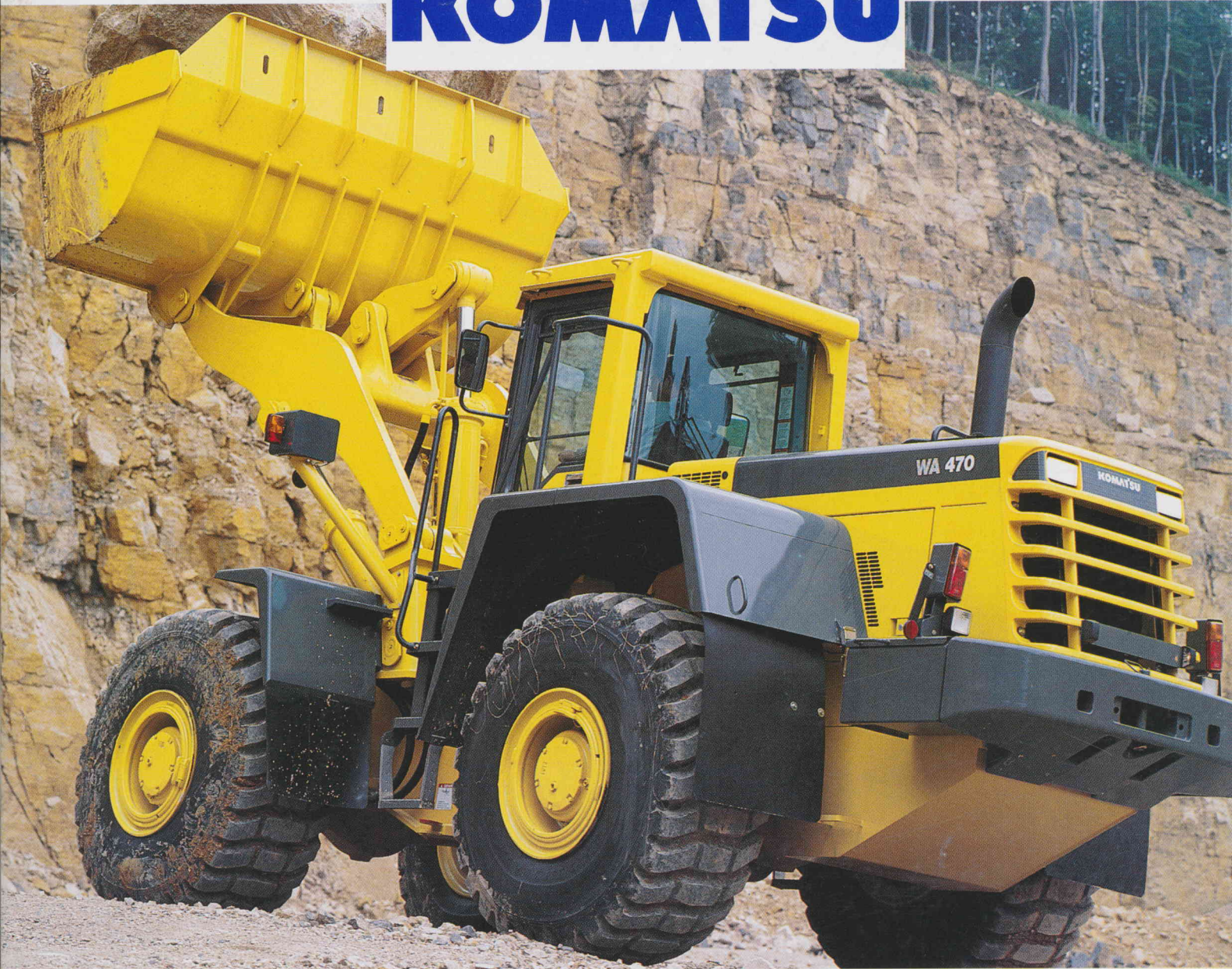


Product Brochure

KOMATSU



NEW Wheel Loader

WA470-3

The new power for high performance:
Causing a stir wherever it goes – showing
its true class wherever maximum output is
required.

Engine output:	194 kW/264 hp (DIN 70020)
Bucket capacity:	3.8 m ³ to 6.5 m ³
Operating weight:	23.1 t



You can count on it, whether for gravel loading, mining or quarrying: the WA 470-3 combines outstanding lifting and breakout force with high flexibility.

Something for a life-time.

The WA 470-3 wheel loader combines all the features of a reliable machine: sturdy, rugged construction, powerful engine, "intelligent" hydraulics for high performance (see page 5), and bucket capacities from 3.8 to 6.5 m³. A synthesis to meet hardest demands and for permanent operation, reducing down-time to a minimum. For a long machine life.

Comfort? At its best!

Of course, no corners have been cut where comfort is concerned. Extremely low noise, air conditioning and ideal ergonomic design of the cab on the one hand. Driving comfort similar to that of a car on the other. Highly shock-absorbing, and with well-balanced weight distribution. Conditions have been created that take the burden off the driver during long working hours.

In the quarry or in coal: the WA 470-3 takes it all in its stride.

The WA 470-3 is in its element whenever the going really gets tough, wherever sturdy power and manoeuvrability are required. Outstanding lifting and breakout force in earth-moving. Tried engineering. Even the heaviest of work in gravel pits is just a normal part of its daily work. And that's the mark of a true professional when it comes to production and loading work.

More for your money.

If you are looking for a reliable investment for your money, the WA 470-3 wheel loader is the one with a high return. Not just because of its excellent equipment and performance features, but also for its extremely easy maintenance, economy and a quality to meet the highest demands. The scales are always tipped in its favour – and, therefore, in yours as well.

Can a construction machine be said to have a beautiful functional design?

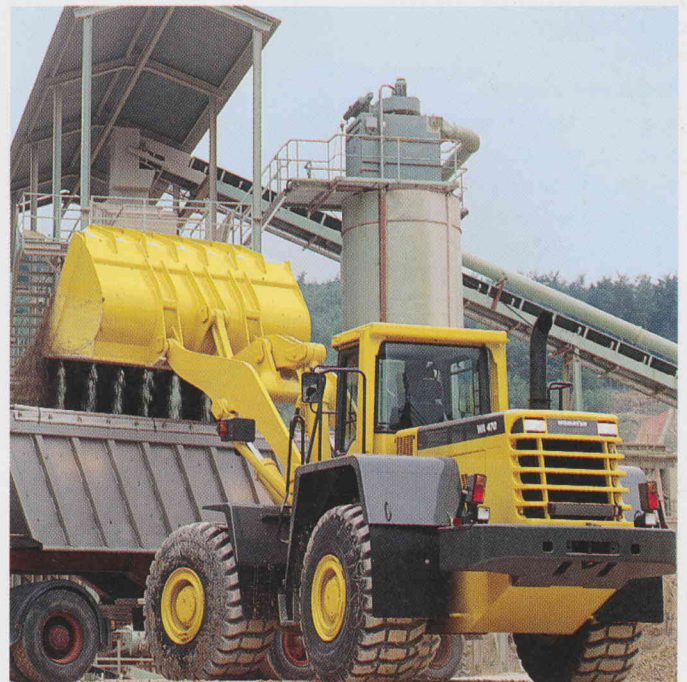
It can. It doesn't matter from which side you look at the WA 470-3, its appearance introduces a well-balanced machine design. But this is not just for the sake of appearance alone. This is shown by the slanting rear, providing not only a more pleasant design but also permitting the WA 470-3 to be reversed right up to the rear wheels without the body coming into contact with the ground. It also makes dumping easier. The concealing rear lamps and the perfect design of the operator's cab also make one thing quite clear: all in all, the design of the WA 470-3 is a beautiful and rational piece of leading technology.



This one really moves ahead, with top performance and under severest conditions.



A match for any terrain: gradients up to 70 % even with a full bucket.



Fast working cycles – e.g. through APS-system, bucket return-to-dig, automatic transmission with "kickdown".

**Keeping it quiet (in the cab)!
Extremely low noise, easiest possible handling,
maximum safety. What a workplace!**



Ergonomic perfection in the operator's cab, with added comfort from air-conditioning and radio.

An employee's commitment will rise if working conditions are right.

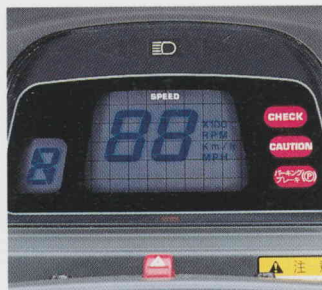
This old saying is reflected perfectly in the cab of the WA 470-3. Anyone who gets in – whether from the left or right – will feel at home immediately because he will find equipment, operating and design features offering the same comfort as a car.



Adjustable steering column.



Actuation of the automatic transmission.



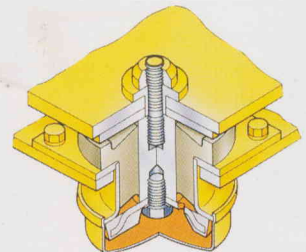
Main monitor for information also on driving speed and gear engaged.



Servo-assisted two-lever hydraulic control, with "kickdown".

The quiet revolution.

The perfect noise insulation of the operator's cab is another important comfort feature. And also a mark of "intelligent" engineering. The operator's cab is connected to the chassis by hydro-bearings.



Hydraulic bearings prevent any transfer of structure-born noise.

The transmission is mounted on rubber bearings as are pipelines and clamps, thus eliminating or reducing the transfer of structure-born noise from drive units to a minimum.

Please take a seat.

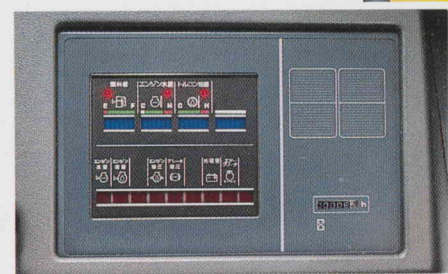
You are sitting on a comfortable, spring-mounted hydraulic seat which, of course, you can adjust to your ideal sitting position. Your high position provides you with good allround visibility and a direct view of the front wheels. In front of you is the adjustable steering wheel and the precise servo-controlled two lever hydraulic control (a mono-lever control is also available if that is what you prefer). The completely jerk-free automatic transmission allows you to match speed to the job in hand, and the "kickdown" system allows you to shift gear instantly from second to first for a powerful drive into the material in front of you.

...control is better.

Right before your eyes you will see a main monitor which informs you at all times about individual driving functions such as speed and gear. A maintenance/service monitor provides you with all relevant data. And if you want to work in a pleasant, somewhat livelier atmosphere, just switch on the high-performance air conditioner and the radio.



Swinging seat, hydraulically sprung.



Electronic monitoring system, for more safety

The "intelligent" hydraulic system for ideal performance: Power where it is needed; speed where time is money.

APIS SYSTEM

The APS-System, the "intelligent" hydraulic unit.

The hydraulic unit works with utmost precision, actuated by two levers (mono-lever as option). This is a well-devised steering system automatically adapting itself to the working conditions, for the WA 470-3 wheel loader has "intelligent brains". This decides on its own whether more force or greater speed is required.

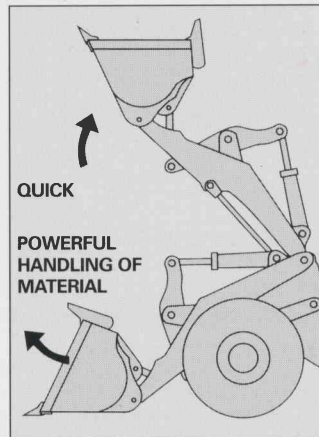
Quick! Quick!

"Fast" hydraulics are required for short loading cycles in a very narrow space. To achieve this, the main and the change-over pump combine to supply a large capacity of max. 416 l/min. up to an oil pressure of 160 bar. This enables the machine to lift the bucket very fast and dump rapidly.

Powerful, forceful.

If resistance increases during heavy ripping and lifting, the changeover pump switches off automatically. The main pump, on its own, now supplies a reduced capacity of 297 l/min.

System pressure increases to a maximum of 210 bar and brings all the power on the bucket.



APS - (Automatic Power System)
The "intelligent brains".

Rugged loading system with Z-bar loader linkage.

The sealed bearing points of the WA 470-3 lift system allow extended service intervals. Greater ripping force and faster bucket dumping are typical characteristics of the Z-bar loader linkage. This is achieved by a reversal of the tilt cylinder power. For ripping (bucket penetration), oil pressure acts on the large piston surface. For dumping, on the other hand, oil pressure acts on the small differential surface of the piston. Thus, the bucket can be emptied quickly, sticky material piling up in bucket is avoided.

Rigid and torsion-free frame.

The frame is very stable due to large distances between joints. This reduces the load on the articulated joint and ensures good manoeuvrability.

ALS ELECTRONIC

Reduced vibrations or jolts thanks to ALS-Electronic.

An excellent damping system, with two converters (full bucket and empty bucket), which already comes into action at 5 km/h, reduces vibrations and jolts which could cause fatigue to the operator and the machine's materials. And this is rounded off by a well-proportioned load distribution which allows a high static tipping load without any additional counterweight.



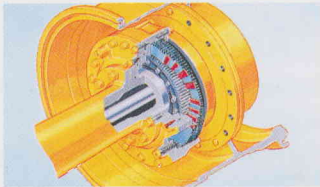
Power, endurance and reliability: A real treat for technical experts.

The heart of the machine: an engine of 194 kW/264 HP to move 23 tonnes.

A modern, heavy-duty 6-cyl.-engine, with 4 valves to each cylinder, provides the WA 470-3 with rugged power to propel its 23 tonnes operating weight. Characteristic features of the power unit are its smooth running, high torque with great elasticity, and an ample power reserve. The power unit represents excellent combustion, low fuel consumption, and low emission of harmful matter. Easily accessible maintenance points ensure fast and easy servicing.

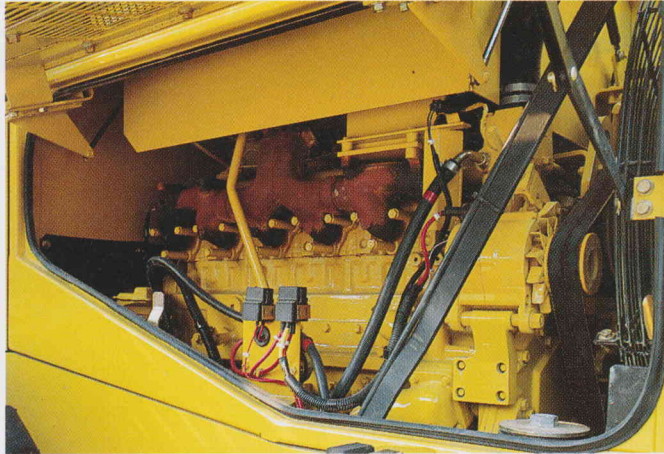
Rugged axles for a long service life.

Even at first sight, one immediately recognises that the WA 470-3 heavy-duty drive axles are not made of sugar. Designed to meet extreme loads they are (virtually) indestructible. Both axles are fitted with planetary reduction gears. Internal wet multiple-disc brakes. Reduction units

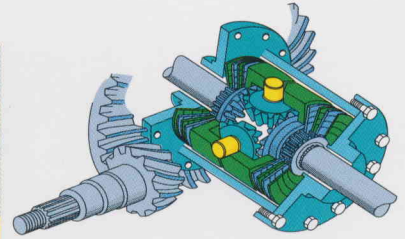


Interior oil immersed disk brakes.

mounted in the wheel hubs – i.e. where maximum torque is required – ensure that pre-mounted elements such as



Rugged 194 kW (264 hp) engine, smoothly running.



Self-locking differentials with 45 % locking value front and rear.

semi-axes and the differential are subjected only to low torsional forces. This increases service life considerably.

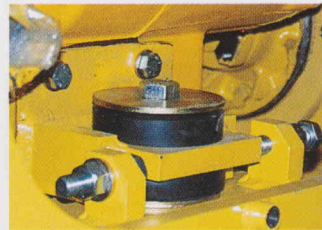
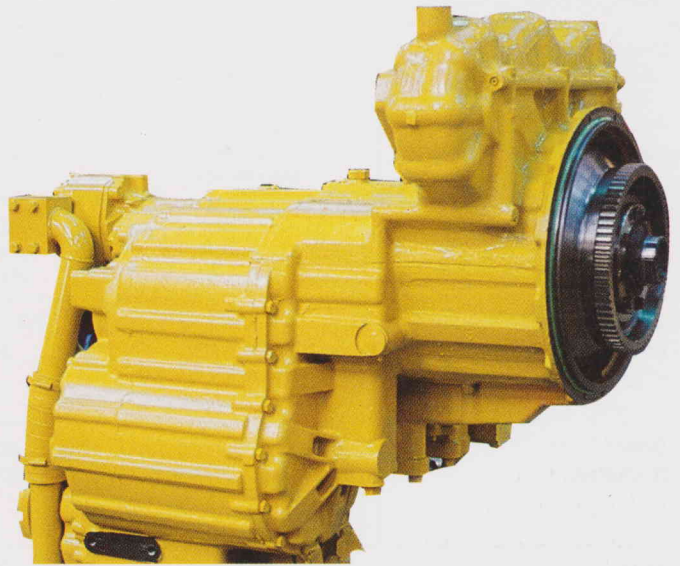
Heavy-duty drive axles with external planetary gears and wet multiple disc brakes for extreme loads.



A robust, fully-automatic 4-speed "softshift" transmission, and more.

Excellent traction on all terrains. Self-locking differentials (standard fitting in Germany) with a 45 % locking value front and rear increase the already good performance even more

for works on soft ground, for heavy-duty pushing or for driving on slopes.



Safe brakes.

The WA 470-3 is equipped with excellent, very efficient interior brakes running in oil-bath, which need no readjusting. The system is fully closed, for safe operation and long life-time. Even if the engine is cut, the machine can be safely brought to a standstill.

"Floating" – and therefore low-noise – 4 speed fully automatic transmission.

No jerking even under full load.

4 forward and 4 reverse gears with field-matched gear-ratings permit jerk-free changing and reversing even under full load. The automatic transmission allows the operator to work without strain, and the "kick-down" gear provides an additional comfort allowing quick shifting to a lower gear, thus providing more push to drive ahead.

"Floating" suspension prevents transfer of structure-born noise.

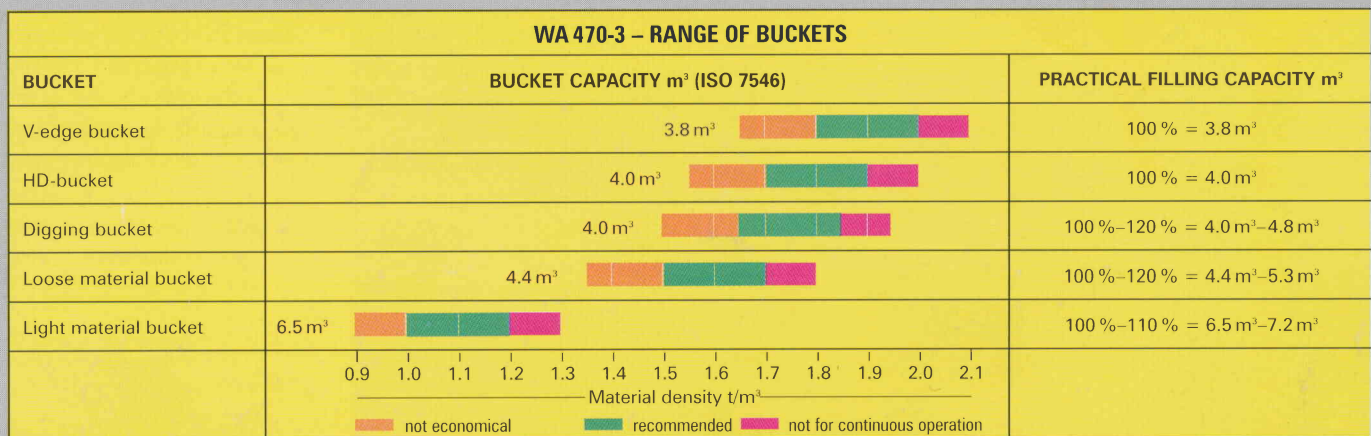
The WA 470-3 transmission is mounted on a "floating" suspension with rubber buffers. This prevents any transfer of structure-born noise, giving the operator's cab a pleasant "sound atmosphere".



Machine data and technicalities

Operating weight (without counterweight)	23100 kg			
Diesel engine S6D 125	194 kW/264 hp DIN 70020	4-stroke diesel with turbocharger	6 cylinders, 11 l piston displacement	Direct injection
Fully automatic transmission	Single-stage converter	ratio 3.15 : 1	gears forw. 4/4 rev. 4/4	Electrical switch: kickdown button
Speed (km/h)	1st gear forw. 6.4 rev. 6.7	2nd gear forw. 11.6 rev. 12.3	3rd gear forw. 21.6 rev. 22.0	4th gear forw. 37.0 rev. 37.5
Dimensions (mm)	Overall length 8.790 Machine with 4.0 m ³ bucket flat on ground	Wheelbase 3400	Gauge 2210	Overall height 3550
Brakes, hydraulic	Disks running in oil bath, in hubs	Pump accumulator system	Hydraulic parking brake: wet multiple-disc brake, hydraulically actuated (in distributor gear)	
Steering	Articulated, 40° articulation	Hydrostatic	Volume matched to load variance	Turning circle: 6320 mm (outer wheel edge)
Axles	Four-wheel drive. Planetary reduction gears in wheel hubs	Front axle = planetary axle with multi-disc self-locking differential* locking value = 45 %	Rear axle = planetary axle with multi-disc self-locking differential* oscillating locking value = 45 %	
Operator's cab	ROPS / FOPS equipment	Super noise insulation	Mounted on hydraulic bearings	Airconditioned

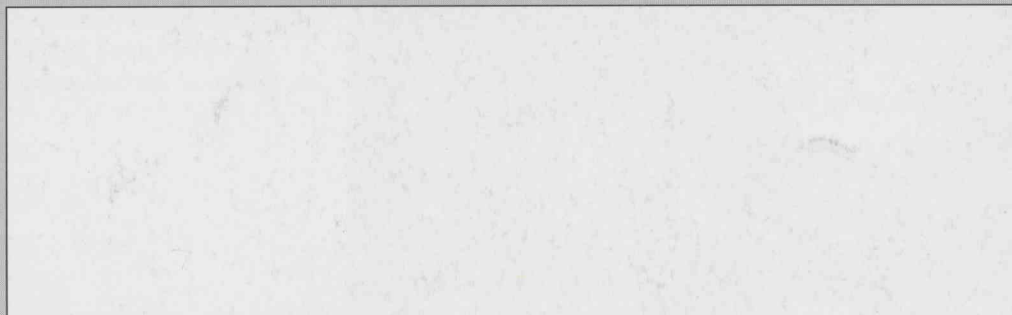
* Standard in Germany



The best of two worlds to your advantage.

WA-series wheel loaders are the first integrated products of KOMATSU and HANOMAG to be built in Hanover. The know-how of two worlds is reflected in these units.

For either of the two Companies has brought its long and valuable experience with it to be imparted to the machine. You are choosing the best possible product, and you are getting best value for your money.



**Komatsu Hanomag
Vertriebscenter**
der Hanomag Aktiengesellschaft

Hanomagstraße 9
30433 Hannover
Germany

Telefon/Phone (0)5 11/45 09-0
Telex 923 381
Telefax (0)5 11/45 09-185