

WA 380-3 *active plus* All highlights at a glance.

Driving functions and control data are monitor-displayed in the operators field of vision and easy-to-check by the service staff using the memory function.

Spacious operator's cab on hydrobearings. Low noise level of $L_{pA} = 73$ dB(A) (95/27/EC).

APS: The Automatic Power Speed system matches the hydraulic operating data to the actual conditions. "Fast" for short loading cycles; "Power" when moving right into the material.

AMS: The AMS Application Mode Selection enables the operator to adjust the machine optimally to the requirements of each operation. Highest performance or lowest fuel consumption are therefore guaranteed.

Fully automatic transmission with electrical "kick-down" and "gear-hold".

Powerful low-emission engine: Komatsu S6D114E. 141 kW/192 hp (ISO 9249). Fulfills all future exhaust and noise regulations $L_{wA} = 108$ dB(A) (95/27/EC).



Sturdy KOMATSU axles for all operations. They ensure a long machine life.

Electronic ALS: Absorbs vibrations and protects operator and machine according to load and speed (optional extra).

Fully capsuled multiple wet-disc parking brake, integrated into the transmission and maintenance free.

Locking differentials for better traction. With a locking value of 45 % as option or TPD differentials as standard.

KOMATSU wheel loaders: The best of both worlds.

Wheel loaders of the WA 3-series were the first products developed and built in Hanover for Europe. The new *active plus*-series is the logical further development of this successful series.

Apart from the construction of wheel loaders, the plant in Hanover is also specialized in the design and fabrication of waste compactors, axles and transmissions.

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VESS074603

KOMATSU



WA 380-3

active plus

**Compact with high manoeuvrability:
Top performance and user-friendly in everyday work.**

Engine output:	141 kW/192 hp (ISO 9249)
Bucket:	3.1 m³ to 3.5 m³
Operating weight:	18.1 tonnes

Loads better comfort • Loads better for environment • Loads better performance

The excellent cost-benefit ratio proves: with the WA380-3 you'll be piling up advantages.

Just take a constructive look at the WA380-3.

Like all the machines of the WA-Series, the 380-3 is designed for extreme loads and maximum service life. Its complete frame and axle construction is remarkably sturdy and virtually indestructible even under the toughest working conditions.

This is underlined by a rigid overall structure of the machine combined with a powerful engine, a bucket load volume of 3.1 to 4.5 cubic meters, and maximum comfort.

The end justifies the form.

Practicality has top priority when it comes to the design of a wheel loader. The WA380-3 is again proof that if a machine looks right – it is right: leading technology aesthetically packed! You will certainly not be alone in that opinion. Take the raised tail profile which gives the WA380-3 a dynamic

appearance whilst at the same time proves extremely practical as it allows you to reverse almost up to the rear wheels. Stockpiling is made easier. Or take for instance the operator's cab with its head-to-toe

perfect design incorporating all sorts of comfort and hiding an integrated ROPS/FOPS system beneath its rounded-off exterior, all of which improves visibility and safety. The end justifies the form.

The operator feels at home straight away.

Not just because he can reach his workplace easily through wide opening doors, but because he is surrounded by ideal ergonomics, as the extremely low



WA380-3 in a load & carry operation.

noise level means he can work "in peace", and because the air conditioning provides him with a really pleasant working environment and a driving comfort comparable to that of a passenger car.



Fast in rubble recycling.

Jack-of-all-trades with staying power.

Whatever the job you assign to the WA380-3 - it will do rehandling work as professionally as rubble recycling. To achieve this new AMS Application Mode Selection helps the operator to choose the optimum operating mode for the job.

A positive answer to the question of economy.

A lot of value for money is what you are bound to get with the WA380-3. When using the novel AMS-system the operating costs can be reduced further. The result is an even greater efficiency per working hour - for instance in rehandling work where it fills a big semitrailer easily in five loading cycles. Thanks to top quality, a sensible overall concept and, by no means least, the guaranteed service friendliness. An investment in a WA380-3, therefore, pays for itself in the shortest time.

Outstanding overhead loading height and finely tuned bucket capacities for semitrailer loading.

What a workplace: climb in and feel at home.



Ergonomically designed main monitor.

Climb in and feel at home.

The design of the workplace is decisive for an employee's commitment.

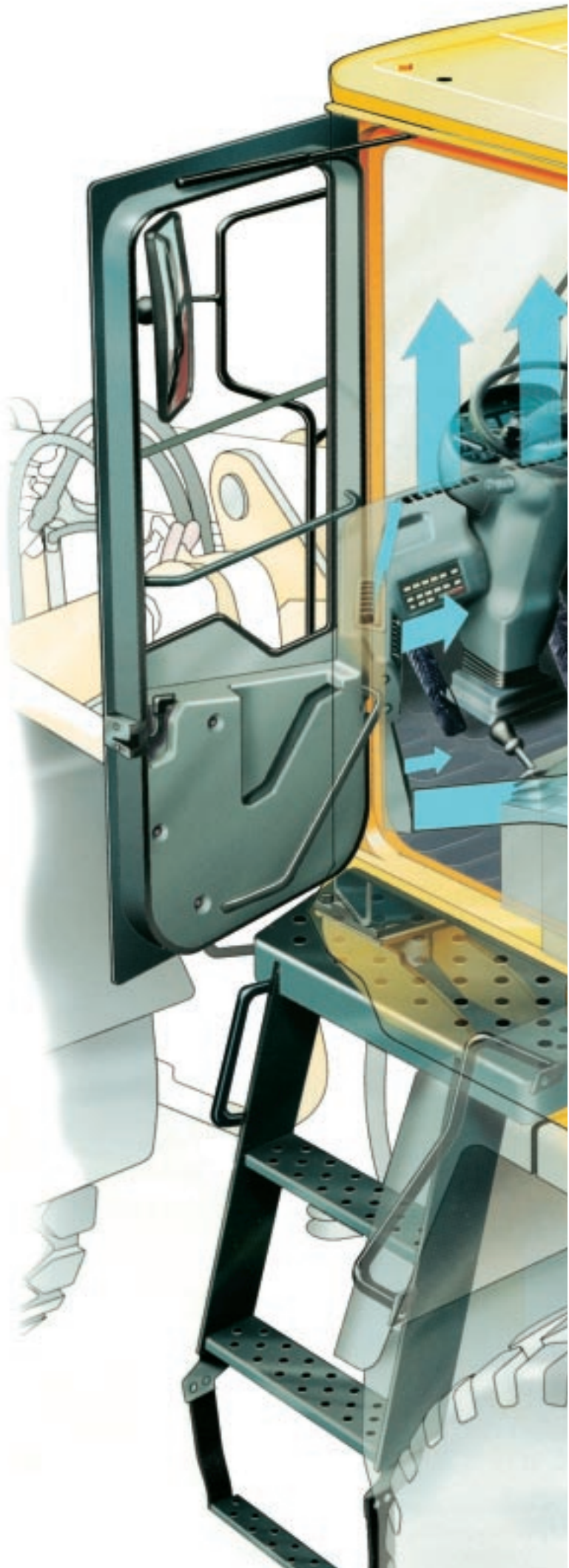
Everybody who feels good, works better. Whether earning his pay at a desk or on a machine. That is why everything has been done on the WA380-3 to create an ideal workplace.

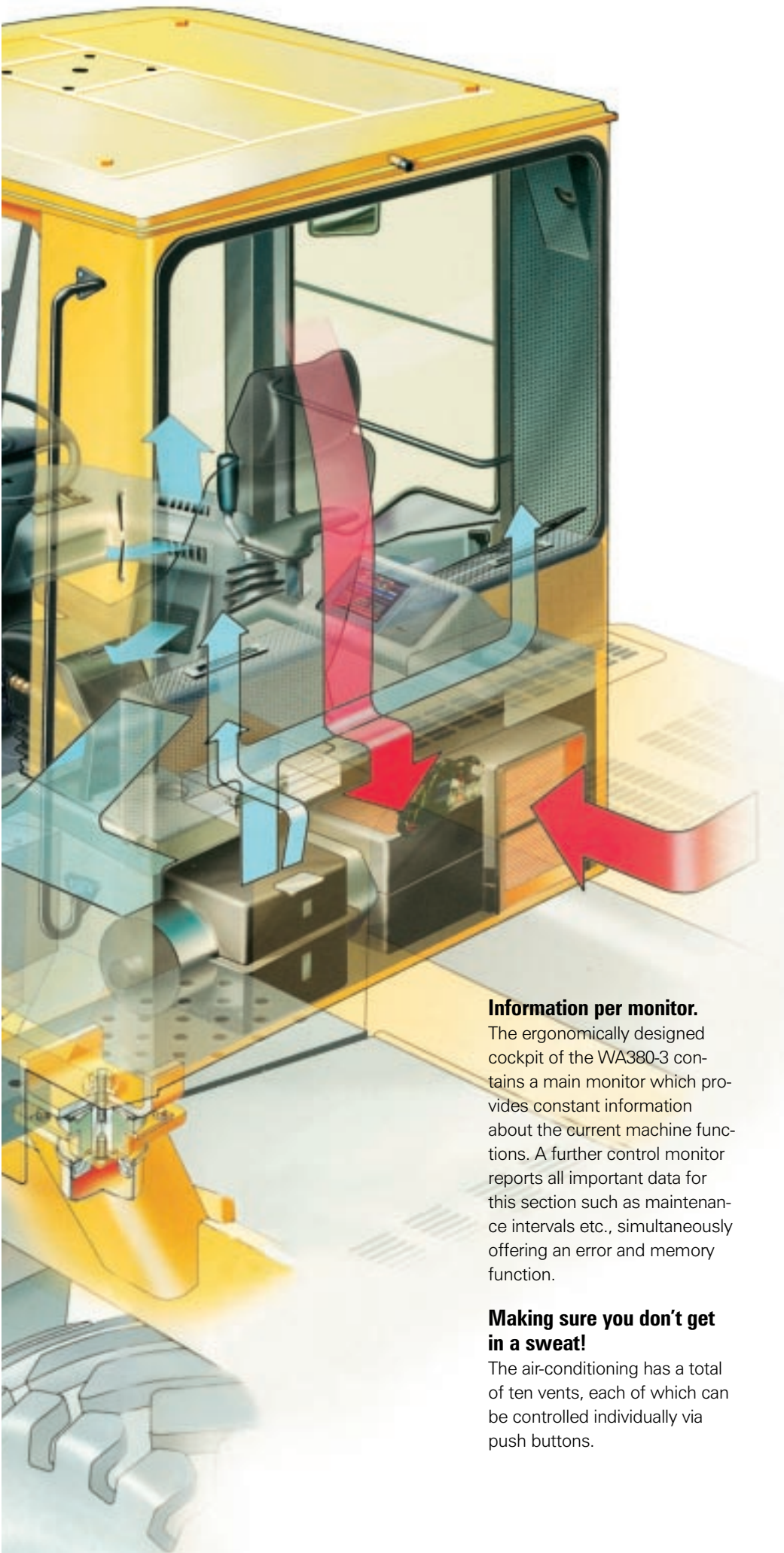
The force of peace.

The low noise level inside the cab results from special designed features: the operator's cab is connected to the chassis by hydrobearings, the transmission "floats" on rubber buffers. The transmission of structure-born noise from the drive units is prevented or reduced to a minimum.

Everything in view, everything within reach.

The first thing you notice inside the operator's cab is the expanded legroom and the ergonomically arranged control elements. The steering column including the monitor panel can easily be adjusted to perfectly suit the driver's position. The sitting position on the standard air suspension seat is high, providing complete all round vision and a direct view of the front wheels through the tinted windows. The precision two-lever hydraulic control (optional single-lever or multi-function lever operation) is servo controlled and, coupled with the jerk-free automatic transmission, enables speeds to be adjusted to individual working conditions, with ease. The "kick-down" function makes work even easier. It is topped off by the "gear-hold" switch which allows the operator to use the braking effect of the engine when driving downhill.



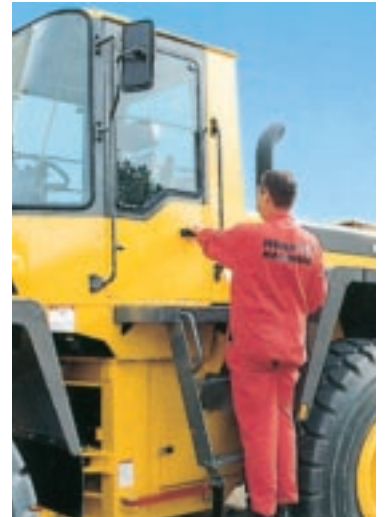


Information per monitor.

The ergonomically designed cockpit of the WA380-3 contains a main monitor which provides constant information about the current machine functions. A further control monitor reports all important data for this section such as maintenance intervals etc., simultaneously offering an error and memory function.

Making sure you don't get in a sweat!

The air-conditioning has a total of ten vents, each of which can be controlled individually via push buttons.



Ergonomic access and a spacious cab further increase the operating comfort.

In each situation the right mode: On button pressure or automatically.

ALS ELECTRONIC

The Electronic Automatic Load stabilizer System, protecting man and machine (optional extra).

Strictly reduced vibrations and jolts thanks to the Electronic ALS.

This outstanding shock reduction system works with big volume accumulators and is automatically activated at 5 km/hour. Vibrations and jolts are reduced to a minimum. The result: reduced stress for man and

machine for instance under fast load & carry conditions over uneven ground. The electronic system senses input parameters covering travelling speed and gearing. The system adjusts automatically to constantly-changing operating conditions and pays for itself by increased operating performance.

APSI SYSTEM

*The Automatic Power-Speed-System - speed or power?
The system decides.*

Extremely flexible.

The APS system is a hydraulic system which automatically adjusts to individual operating conditions. The system decides for itself when power is called for, or when speed would be more advantageous.

Actually it's quite simple why things suddenly go fast.

"Fast" hydraulics are required when you need to carry out short loading cycles in extremely restricted spaces. Main and alternating pumps together supply a high flow-rate of a maximum of 300 l/min at an oil pressure of up to 160 bar. The result: fast bucket lift and fast tipping.

Actually it's quite simple why power suddenly concentrated.

During heavy tear-out and lifting work, the resistance acting on the hydraulic system rises. At this point, the alternating pump switches off automatically and the main pump alone will supply a reduced oil flow-rate of 210 l/min.

The system pressure rises to a maximum of 210 bar, and the entire power will be transferred to the bucket, or is made available to the transmission for powerful traction into the material.

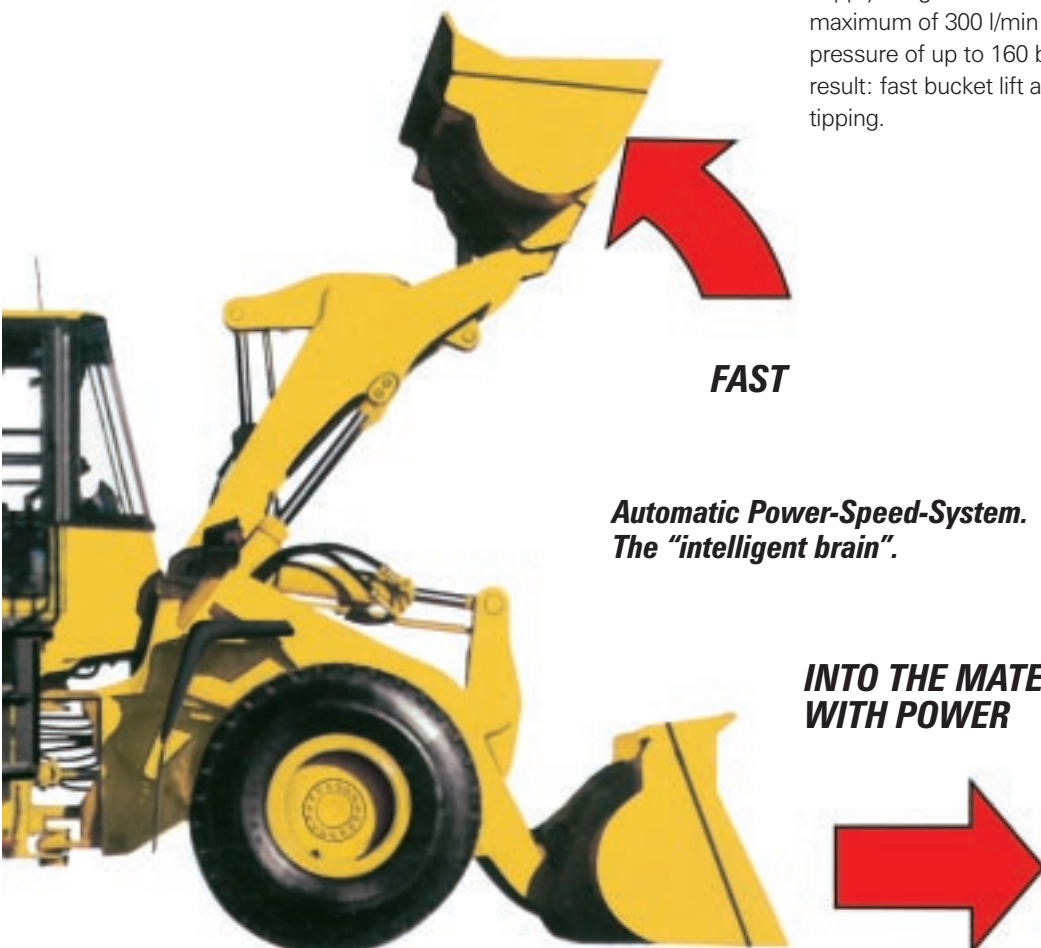
Power reversal via Z-Kinematics.

The Z-kinematics are characterised by a high tear-out force and fast bucket discharge. This is achieved by power reversal of the tilt ram.

When filling the bucket (tear-out) the oil pressure acts on the large piston surface, whereas it acts on the smaller, differential surface of the piston during the dumping process. This empties the bucket extremely rapidly and largely prevents the adhesion of cohesive materials in the bucket. Due to the double-sealed bearing-joints, extremely long maintenance intervals are also achieved.

Rigid and torsion-free frame.

The frame is very rigid due to large distances between joints. This grants maximum strength to the overall construction and reduces the load on the articulated joint. The 40° turning angle gives the machine its extremely high manoeuvrability.



FAST

**Automatic Power-Speed-System.
The "intelligent brain".**

**INTO THE MATERIAL
WITH POWER**



Efficiency – by the press of a button.

The operator adapts the wheel loader to each operation by button pressure. Ergonomically integrated into the instrument panel all important main components such as engine, transmission and hydraulic system are adjusted optimally to the wishes of the operator and the requirements of the job.

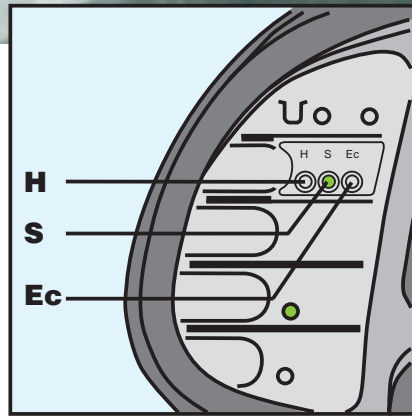
Selected modes

High:

Powerful for fast V-shape loading, for example for the loading of trucks. The APS 2-stage hydraulic system and a maximum engine rpm guarantee fast hydraulic cycle times. The "late" gear shift from the 2nd to the 3rd gear ensures the maximum tractive power and fast loading and dumping sequences. This mode should be selected when maximum performance is required .

Standard:

Smooth for road travel as well as slow V-shape loading and "load & carry". The "early" gear shift reduces engine rpm and fuel consumption. The permanent disconnection of the switch pump reduces hydraulic loss and therefore fuel consumption. The reduced engine speed at "load & carry" means reduced engine wear and a reduction of noise level. The maximized engine rpm guarantees fast travel speed on the road.



Powerful, smooth or efficient – make your own choice.

Economy:

Efficient for Load & Carry and light duty job applications. This selected mode provides lowest operating costs and highest efficiency. Further to the adaptations carried out to the transmission and hydraulic systems the engi-

ne management is controlled. The reduction of the engine rpm effected with this selected mode leads to a further reduction of fuel consumption when accelerating.



To steer with the little finger.

A further innovative feature is the optional joy stick. Integrated into the arm of the operator's seat it provides the operator easy and low effort steering during reversing in a loading operation. "To steer with the little finger" saves a thousand turns of the steering wheel every day and keeps the operator fit.

You can read below what the WA380-3 drive unit has to offer. But it would be better if you experienced it yourself.

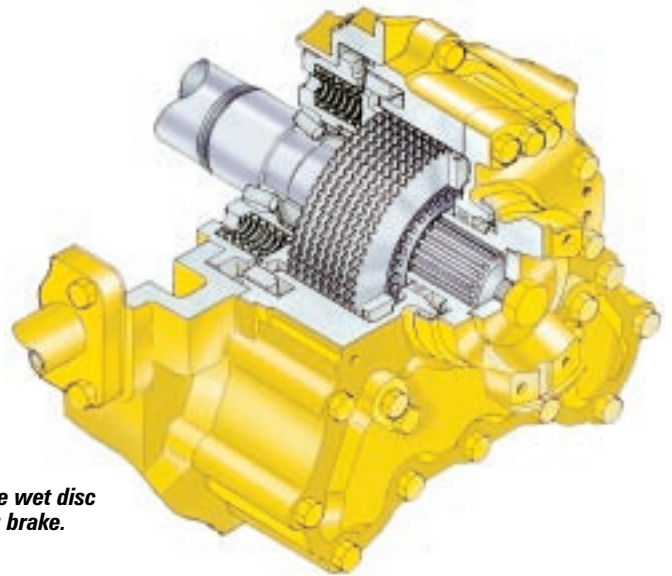
Maximum performance calls for stamina.

A wheel loader is subject to extreme conditions because it has to cope with a wide variety of jobs: driving from building site to site, reversing, lifting and breaking out, pushing earth loads etc. The machine is under incredible stress, from the axle right down to the smallest bolt. That's why the WA380-3 - like all the other wheel loaders in the new WA-active plus-series - has

a "sturdy constitution". And constructive features that make these machines exceedingly robust.

Under pressure it feels at its best.

The double-sealed bucket pins and the KOMATSU heavy-duty axles easily handle any load. The large-volume, low-emission engine keeps everything moving under power. With an impressive result.



Multiple wet disc parking brake.



141 kW/192 hp - a really powerful, modern low-emission engine.

The big volume KOMATSU-6 cylinder turbocharged diesel imparts to the WA380-3 exceptional smoothness, with flexibility and high torque. This gives you the power reserves you need - whether mining, on sand or in recycling. Very moderate fuel consumption and excellent combustion are significant

factors for economy and resolute environmental awareness. And easily accessible service points for easy maintenance go without saying.

Multiple wet disc parking brake.

Designed as multiple wet disc type, oil-immersed and integrated in the transmission case. Also the parking brake never wear out and is it maintenance

free. Furthermore, the double disc service brake is an oil-immersed type and protected against mud and dust. The brake system is fully hydraulic giving a further step towards a maintenance free machine.

Central lubrication factory fitted.

The optional Komatsu-central lubrication system in the particularly robust heavy-duty design provides clean maintenance and low down time even in the heaviest operations.

Making sure the wheels always grip.

Locking differentials front and rear (option) with a locking value of 45 % are a guarantee for good traction at all times, even on soft ground, for heavy pushing work, or on slopes.

Into gear smoothly.

There are four gears each for forward and reverse drive. The gear ratios are practice-related and provide jerk-free gear-change and reversing even under full load. The automatic transmission is particularly advantageous and takes the burden off the operator, as does the "kick-down" for changing down to 1st gear in a flash in order to move into the material at full power. Furthermore the

Exhaust limit values in g/k Wh in accordance with ISO 8178

9,2	0,7	1,3	5,0
8,44	0,28	0,38	0,74
NO _x	PM	HC	CO

EU limit values
Actual values of the WA380-3 active plus

new AMS-system provides optimized gear shifts and increased efficiency.

In harmony with the environment - not only due to the low exhaust values.

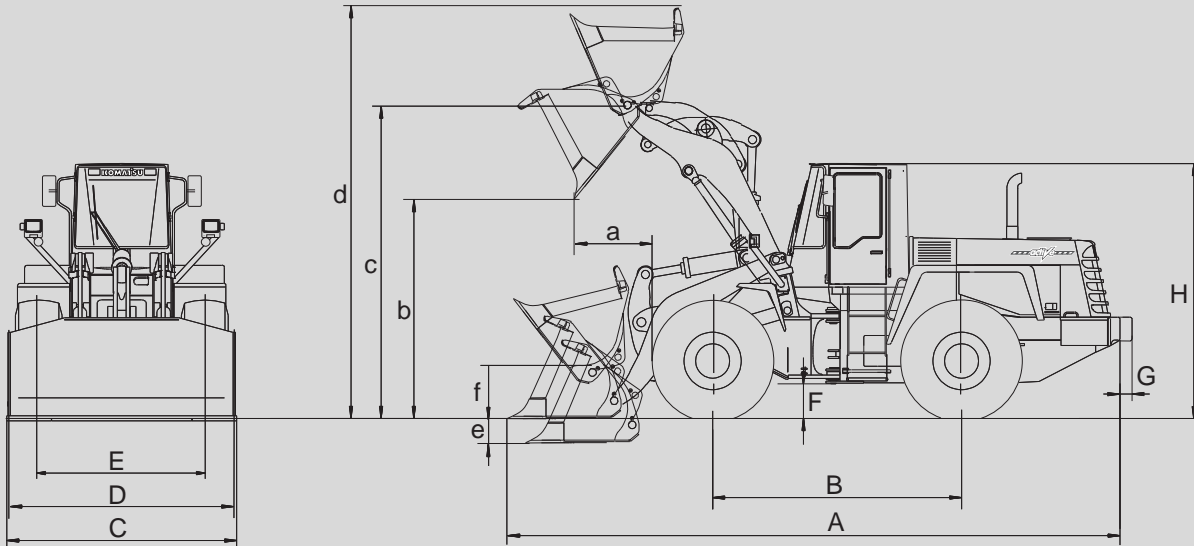
We hardly think it worth mentioning that our low-emission engines emit far below the future European and international exhaust directives. The high-pressure injection plus a modified turbocharger give the wheel loader low-noise force and staying power. The hydraulic system operates optionally with bio-oil and is thus in perfect harmony with the environment, for instance in water-protected areas. Taken altogether - an investment which pays for itself in the shortest of time.



Easily accessible service points for cab filter, engine and transmission make service work simple and clean.



Dimensions and Operating Data.



Buckets (Capacities to ISO 7546)	m ³	3.1	3.4
Specific density	t/m ³	1.75	1.6
Bucket weight without teeth	kg	1,560	1,600
Static tipping load (straight)	kg	14,125	14,110
Static tipping load (at a 40° angle)	kg	12,290	12,270
Breakout force, hydraulic	kN	155	148
Hydraulic lifting capacity, on ground	kN	179	177
Operating weight	kg	17,670	17,710
a Reach at 45°	mm	1,112	1,150
b Dumping height at 45°	mm	3,010	2,975
c Lift height, hinge pin	mm	4,077	4,077
d Height to upper edge of bucket	mm	5,492	5,591
e Digging depth	mm	44	44
f Bucket height when travelling	mm	425	425
A Overall length	mm	7,845	7,900
B Wheelbase	mm	3,200	3,200
C Bucket width	mm	2,916	2,916
D Width across tyres	mm	2,770	2,770
E Track	mm	2,160	2,160
F Ground clearance	mm	440	440
H Overall height	mm	3,380	3,380

Special buckets:
3.1 m³ HD bucket (recycling)
4.5 m³ bucket for lightweight materials

The standard 3.1/3.4 m³ buckets shown in the table can also be supplied with bolt on cutting edges to increase capacities to 3.2/3.5 m³.

Data will be modified according to:

	Additional counter-weight	Tyre filling 23.5 R 25
Weight	+ 325 kg	+ 1170 kg
Tip load:		
0°	+ 900 kg	+ 1970 kg
40°	+ 755 kg	+ 1740 kg
Overall length (G)	+ 175 mm	-

L_{pA} = 73 dB(A)**
L_{wA} = 108 dB(A)**

* Machine without additional counterweight
** According to 95/27/EC (new dynamic measurement)

These values refer to the machine fitted with 23.5 R 25 XHA tyres.

Bucket type	Capacities in m ³	
HD bucket	3.1	[Not economical] [Recommended] [Full utilization]
Bucket	3.1	[Not economical] [Recommended] [Full utilization]
Bulk mat. bucket	3.4/3.5	[Not economical] [Recommended] [Full utilization]
Light-mat. bucket	4.5	[Not economical] [Recommended] [Full utilization]
Density	in (t/m ³)	0,9 1,0 1,1 1,2 1,3 1,4 1,5 1,6 1,7 1,8 1,9 2,0

The actual volume will usually exceed the ISO/SAE classification. The table shows optimum bucket data, depending on the material involved.

Material	Bucket contents %	Density t/m ³
Earth	100-115	1,5-1,6
Clay	110-120	1,5-1,7
Sand	100-110	1,4-1,8
Gravel	85-110	1,5-2,0
Rock	75-100	1,6-2,0

[Not economical] Not economical [Recommended] Recommended [Full utilization] Full utilization

Technical Data at a Glance.



Engine

Make	KOMATSU, low-emission engine
Model	S6D114 E-1
Type	Turbo diesel engine
Power output at engine speed	141 kW/192 hp (ISO 9249) 2200 rpm
Max. torque	849 Nm/1400 rpm
No. of cylinders	6
Bore/Stroke	114/135 mm
Displacement	8.3 l
Compression ratio	16 : 1
Fuel injection	Direct
Cooling system	Dual circuit, thermostatically controlled liquid cooling
Electrical system	24 volt
Batteries	2 x 12 volt, 143 amp/h
Alternator	50 amp/h
Air filter	HD dry-air filter



Transmission

Make	KOMATSU
Type	fully-automatic 4-speed full powershift transmission with "kickdown" and "gear-hold"
Conversion ratio	3.35 : 1



Steering

Type	Hydrostatic
System	Articulated
Articulated joint	needs no readjustment
Steering angle	40° each side, hydraulically limited
Steering pump	
Operating pressure	210 bar
Delivery	95 l/min
Minimum turning radius	
Outside edge wheels	5840 mm
Outside edge standard bucket	6390 mm
Emergency steering	Via additional pump



Filling Capacities

Fuel	287 l
Engine oil	22.4 l
Cooling system	53 l
Converter transmission/ Powershift transmission	48 l
Front axle	37 l
Rear axle	37 l
Operating hydraulics/ Brake system	190 l



Hydraulic System

System	2-stage, 2-pump system with main and switch pump
Operating pressure	
Stage 1	160 bar
Stage 2	210 bar
Operating flow	
Stage 1	300 l
Stage 2	210 l
Loading times	
Lift (full load)	5.1 sec
Dump	1.5 sec
Lower	3.0 sec
Automatic boom kick-out, automatic return-to-dig	



Axles

System	All-wheel drive, planetary reduction in the differentials
Front axle	HD axle with self-locking differential, 45 % locking value
Rear axle	HD axle with self-locking differential, oscillating; 45 % locking value
Oscillating angle	15° each side
Tyres	23.5 R 25 XHA L3, Michelin 625/70 R 25 XLD 70 1-3, Michelin 23.5 R 25 SPT 7LD, L3, Dunlop 23.5 R 25 VLT, L2/3, Bridgestone 23.5-25 PG 9SD, 24 PR, L5, Dunlop 23.5 R 25 XRD 1A, L4, Michelin 23.5 R 25 XLD D2 A, L5, Michelin 23.5 R 25 RL-2+, L2, Goodyear 23.5 R 25 GP 2 B, L2, Goodyear 23.5 R 25 RL 5 U, L5, Goodyear



Travel Speeds

Forward	1st gear 0 - 7.2 km/h 2nd gear 0 - 11.5 km/h 3rd gear 0 - 21.6 km/h 4th gear 0 - 37.0 km/h
Reverse	1st gear 0 - 7.6 km/h 2nd gear 0 - 12.3 km/h 3rd gear 0 - 22.1 km/h 4th gear 0 - 38.0 km/h



Brakes

Operating Brakes	Hydraulic pump accumulator brake system, wet-type multi-disc brakes in wheel hubs (all-wheel brake)
Hand Brake	Wet-type multi-disc brake in transmission, spring-loaded, opening hydraulically



Standard Equipment

Low-emission engine ■ Two-door, noise-insulated high-comfort cab, equipped with ROPS/FOPS ■ air conditioning ■ air suspension operator's seat ■ openable door windows ■ stereo cassette radio ■ 2 halogen main lights ■ halogen work lights, front and rear ■ vandalism protection ■ AMS Application Mode Selection (H, S, Ec selected mode) ■ automatic transmission with additional kick-down and gear-hold ■ two-lever hydraulic operation ■ torque proportioning differential in front and rear axle ■ emergency steering system ■ electronic checking system (EDIMOS II) ■ automatic power-speed hydraulic system (APS-System) ■ automatic return-to-dig ■ automatic boom-kickout ■ all loading kinematics and bearing points sealed ■ integrated noise insulation ■ German Federal Motor Vehicle Safety Standards.

The WA380-3 is equipped in accordance with the professional safety regulations and fulfills the low-emission directives of ISO 8178 and the directive 95/27/EC.

Noise emissions: $L_{wA} = 108$ dB(A), $L_{pA} = 73$ dB(A).



Optional Equipment

High-lift attachment ■ limited slip differential, front and rear ■ fold-down radiator grill ■ electronically controlled load stabilizer (ALS-electronic) ■ 3-spool-valve ■ single-lever hydraulic control ■ weighing facility ■ backup alarm ■ additional counterweight (325 kg) ■ additional counter weight II (460 kg) ■ central lubrication ■ special colour ■ rock and special buckets ■ special tyres (e.g. rock, recycling, sand, clay, etc.) ■ tyre chains ■ protective grille for windscreen ■ catalyser ■ speed limitation ■ TURBO II air-pre-cleaner ■ multi-function-lever for transmission and hydraulic control ■ hydraulic quick coupler ■ equipment for the wood industry (log grapple, light material- and high tip bucket) ■ additional working lights ■ roof railing ■ 3rd and/or 4th spool valves for additional hydraulic functions ■ heated operator's seat.