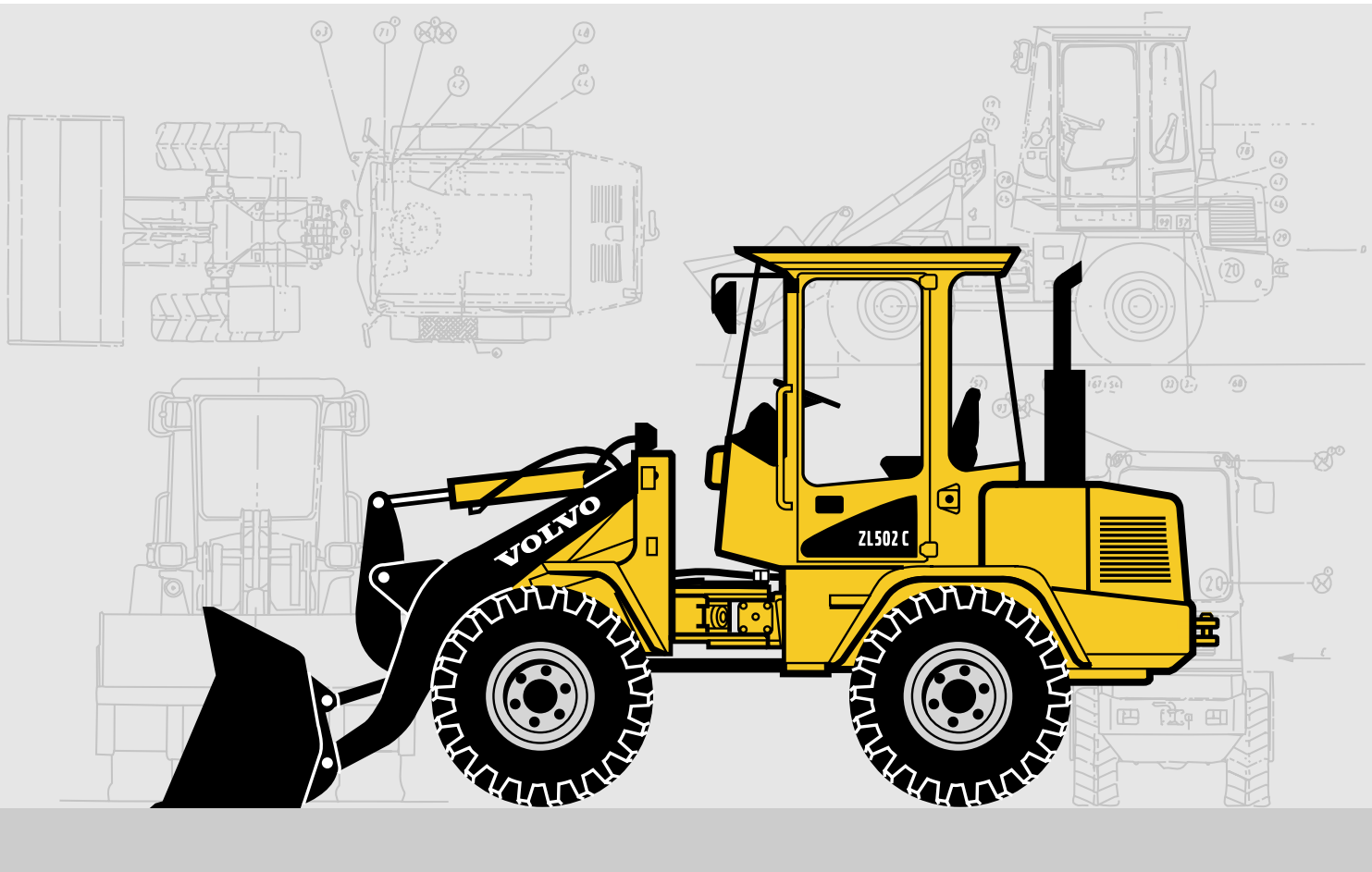


# VOLVO COMPACT WHEEL LOADER

# ZL502C



- **Gross Power:**  
SAE J1995 41/56 kW/hp  
**Net Power:**  
SAE J1349 40/54 kW/hp
- **Operating Weight:**  
4,4 - 4,5 t
- **Bucket Capacities:**  
0,7 - 1,3 m<sup>3</sup>
- **High-performance, low environmental impact diesel engine:** quiet, low emissions, economical fuel consumption.
- **Hydrostatic drive with significant advantages:**
  - Easy to operate due to automatic drive facility.
  - Maintains high drawbar pull even when working hydraulics are engaged.
  - Advantageous hydrostatic brakes, wear-free and safe.
- **Powerful Z-bar loader-linkage with two lifting cylinders:**
  - High breakout force and lifting capacity in bucket applications.
  - Excellent fork-lift capacity.
- **Operator-selected 100% differential lock on both axles** to give optimum traction.
- **Standard hydraulic quick-change coupling:** Various tried-and-tested attachments for a wide range of applications.
- **Purpose designed cab comfort:**
  - Audio-visual warning system for monitoring operating systems
  - Multi-function lever.

**VOLVO**

# A wheel loader of the compact class from Volvo

## Compact wheel loader ZL502C



### An ergonomic operator environment

Mount your new Volvo loader and start into a successful work day. Your compact machine from Volvo makes it easy for you: well laid out cockpit, individually adjustable, comfortable operator's seat, variable ventilation and heating. Good allround-view for precise control of the machine. Simplified operation using the dual «inch/brake» pedal and the multi-function lever. Using a Volvo makes working a pleasure.



### Uncompromising performance

Well-proven technology, high quality components and a well thought-out design: engine and central maintenance points in a service-friendly transverse arrangement. Powerful loader linkage with excellent performance. Durable hydrostatic travel drive for constant power. Strong diesel engines with high power reserves. Exemplary environmental features: excellent fuel economy and operation with low exhaust emissions.



### Difficult terrain? - No problem!

With their compact dimensions, the high ground clearance and the selectable 100% differential lock on both axes these machines can easily cope

with difficult terrain. Optimum manoeuvrability is ensured even on twisty, narrow sites due to the articulating-oscillating joint.





Z-bar loader-linkage - robust multi-purpose loader-linkage with high breakout and lift forces. Powerful in loading and production.



### Non stop operation

Don't forget your breaks. Otherwise it may easily happen that you are on the go around the clock. In fact, there is always something to do for a real Volvo allrounder: in the morning with a bucket, at noon with the loading fork, in the afternoon with the road sweeper. Or with another one of the more than 60 attachments, with which you can convert your compact Volvo to your individual needs. With hardly any loss of time, because the hydraulic quick change coupler is standard on all machines.





## ENGINE

**Engine:** Deutz in-line 4-cylinder, 4 stroke, direct injection diesel engine, oil/air cooled.

### Air cleaning:

1. Paper filter with indicator in cab
2. Safety filter

Engine .....	F4 L 1011F
Gross power @ .....	2800 r/min
SAE J1995 .....	41 kW
SAE J1995 .....	56 hp
Net power @ .....	2800 r/min
SAE J1349 - DIN ISO 1585 .....	40 kW
SAE J1349 - DIN ISO 1585 .....	54 hp
Max. torque @ .....	1800 r/min
SAE J1349 netto .....	152 Nm
DIN ISO 1585 .....	152 Nm
Cubic capacity .....	2,73 l
Bore .....	91 mm
Stroke .....	105 mm



## ELECTRICAL SYSTEM

Rated voltage .....	12 V
Battery voltage .....	12 V
Battery capacity .....	88 Ah
Alternator rating .....	840/60 W/A
Starter motor output .....	2,2 kW



## DRIVETRAIN

**Transmission:** hydrostatic transmission, full power shift under load, both when changing direction (forward and reverse) and between ranges. Maximum drawbar force can be achieved in all ranges. «Inch/brake pedal» for variable machine speed control and power transfer to bucket hydraulics at constant engine rpm. Multi-function lever for change of direction, differential lock and use of the servo-control.

**Axles:** all-wheel drive by two rigid portal axles.

**Differential locks:** hydraulically actuated 100% differential locks in both axles.

**Frame:** solid front and rear frame, robot-welded. Articulating oscillating joint for optimum manoeuvrability and traction.

Oscillation at wheel, max. ....	250 mm
Track .....	1382 mm
Angle of oscillation .....	±10°
Tires: Size .....	12.5-18
Rim .....	11 x 18

<b>Speed, max.:</b>	<b>Standard</b>
1st range forward/reverse .....	7,0 km/h
2nd range forward/reverse .....	20,0 km/h



## SERVICE FILL CAPACITIES

Engine .....	10,5 l
Fuel tank .....	60,0 l
Front axle, total .....	10,0 l
Rear axle,	
incl. drop-box .....	11,0 l
Hydraulic tank, incl. hydraulic system .....	60,0 l



## BRAKING SYSTEM

**Service brake:** reliable dual braking system, acting upon all four wheels.

1. Wear-free, hydrostatic inching brake
2. Central friction brake, actuated via «inch/brake pedal». First stage of pedal application actuates the inching facility, the last third of pedal application applies the central friction brake.

**Parking brake:** central drum brake, acting upon all four wheels.



## HYDRAULIC SYSTEM

Thermostatically controlled oil circuit with integrated cooling system.

**Hydraulic control valve:** Servo-controlled, double acting control valve three spool system, with primary and secondary pressure valves.

1. Lifting function
2. Tilting function
3. Additional function for hydraulic QC  
Unlock, neutral, lock  
Preparation for operating hydraulic attachments with this function is available as an option.

**Hydraulic oil filter:** main stream filter cartridge with a 10 µm filtration in the return-line. Suction filter for the drive assembly with a 10 µm filtration.

The filters can be replaced without emptying the tank

**Hydraulic pump:** gear type-pump

Hydraulic pump	
Flow .....	45 l/min
@ engine rpm .....	2800 r/min
Relief valve pressure .....	23 MPa



## STEERING

Hydrostatic steering. Central articulating-ocillating joint with damping effect.

**Steering pump:** gear-type pump

**Steering cylinder:** 1 double-acting steering cylinder

Steering	
Angle of articulation .....	±39°
Steering pump	
Flow .....	22 l/min
@ engine rpm .....	2800 r/min
Relief valve pressure .....	17 MPa



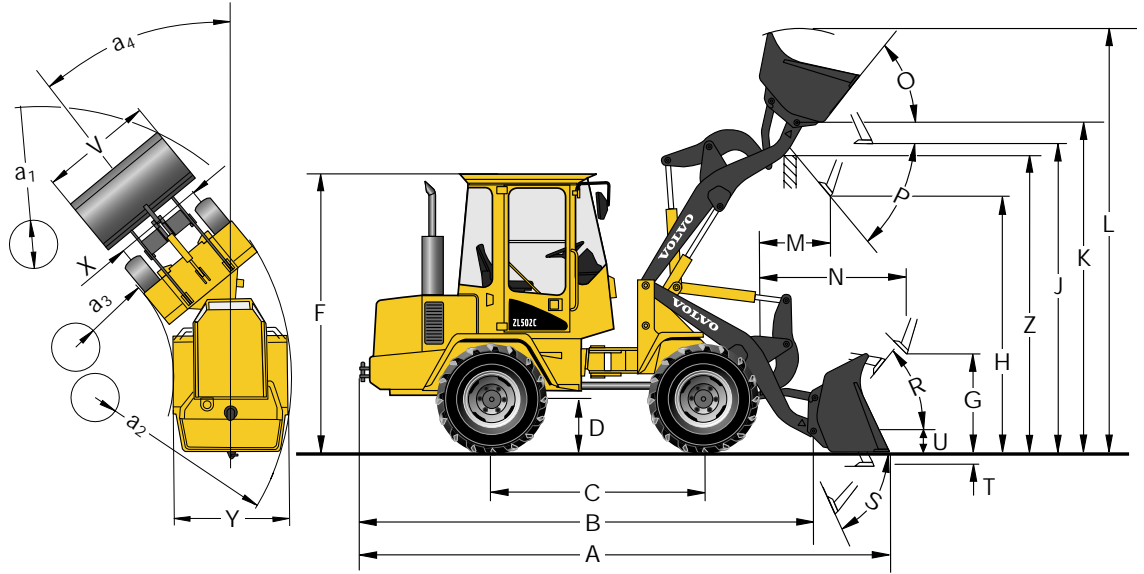
## LINKAGE

Linkage system:	Z
Lift cylinders .....	2
Tilt cylinders .....	1
Lift time (loaded) .....	6,0 s
Lowering time (empty) .....	3,0 s
Dump time .....	1,0 s
Crowd time .....	1,0 s

## DIMENSIONS • Z-BAR LINKAGE

ZL502C with Z-bar linkage, Z-attachment carrier and 12.5-18 tires

B	4270	mm
C	2000	mm
D	430	mm
F	2585	mm
G	920	mm
J	2940	mm
K	3090	mm
O	53	°
P	45	°
R	50	°
S	143	°
U	150	mm
X	1382	mm
Y	1730	mm
Z	2850	mm
a <sub>2</sub>	3750	mm
a <sub>3</sub>	1980	mm
a <sub>4</sub>	±40	°



## OPERATING DATA • Z-BAR LINKAGE

Data according to bucket type		General Purpose		Light Material		4-in-1	High-Tip
ZL502C with Z-bar linkage, Z-attachment carrier and 12.5-18 tires							
Capacity heaped	m <sup>3</sup>	0,7	0,8	1,1	1,3	0,7	1,2
Material density	kg/m <sup>3</sup>	2000	1700	1200	900	1900	900
Static tipping load, straight (ISO / DIS)	kg	3460	3400	3250	3200	3150	2900
Static tipping load, full turn 39° (ISO / DIS)	kg	3070	3000	2900	2850	2800	2600
Hydraulic lifting capacity, max.	kN	32,7	32,0	30,6	30,1	29,5	27,6
Breakout force	kN	40,2	40,0	30,2	28,5	37,0	-
A Total length	mm	4990	5030	5235	5285	5240	5530
L Lift height, max.	mm	3920	3970	4110	4160	3960	4750
V Bucket width	mm	1750	1750	1900	1900	1750	1900
a <sub>1</sub> Clearance circle	mm	8100	8130	8350	8480	8200	8650
T Digging depth	mm	90	140	140	140	140	140
H Dump height	mm	2500	2440	2290	2260	2390	3530
M Reach at max. height	mm	820	740	890	920	790	1210
N Reach, max.	mm	1500	1420	1570	1600	1470	2170
Operating weight	kg	4400	4410	4460	4480	4570	4735

Data with Loading Fork		Standard version	with additional counterweight 170 kg	ZL502C - Possible machine variations	
				Linkage/attach. carrier	Standard
Tipping load, full turn (ISO / DIS)	kg	2200	2420	Z-bar / Z	●
Payload according to EN 474-3, 60/80%	kg	1300/1750	1450/1900	TP	—
Payload 80%, transport position, 39° full turn	kg	2050	2250		



## STANDARD EQUIPMENT

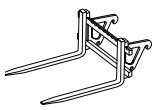
<p><b>Engine</b> Diesel engine, direct fuel injection Extra fuel filter Cold start aid Two stage dry-type air filter</p> <p><b>Electrical System</b> Alternator 60 A</p> <p><b>Lighting:</b> Main head lights (halogen) full/dipped/asymmetrical Parking lights Rear lights Brake lights Direction indicators Hazard warning lights Reversing lights Cab lighting</p> <p><b>Instrumentation &amp; controls:</b> Multi-function lever 12 Volt accessories socket Horn Hazard warning switch Safety start</p> <p><i>Gauges:</i> Hour meter Drive system oil temperature Fuel level indicator</p> <p><i>Indicator lamps for:</i> Direction indicator</p>	<p>Parking brake Main beam Pre-heater Battery charging Differential locks Hazard warning flashers Direction (forwards/reverse)</p> <p><i>Central audio-visual alarm for:</i> Engine temperature Engine oil pressure Drive system oil temperature Air filter restriction Parking brake</p> <p><b>Drivetrain</b> Hydrostatic drive Operator-selected 100% differential locks</p> <p>Tires 12.5-18</p> <p><b>Hydraulic System</b> Control valve three-spool system 3rd hydraulic circuit</p> <p><b>Service and Maintenance</b> Tool kit Wheel nut wrench</p> <p><b>Cab, Exterior</b> Removable ROPS/FOPS cab with flexible mountings</p>	<p>Walk-through cab Lockable doors Tinted safety glass (front/rear) Windscreen wiper (front/rear) Windscreen washer (front/rear) Sliding window in the left door Door stops External rear view mirrors (right/left)</p> <p><b>Cab, Interior</b> 4-way adjustable operator's seat Seat belt Sunvisor Heater with air-filter and defroster Cab ventilation Storage box in the cab Tool box</p> <p><b>Working Equipment</b> Bucket level indicator Hydraulic quick-change attachment carrier</p> <p><b>Carriage Body</b> Fenders and mudguards, (front/rear) Lockable engine hood Lockable fuel tank cap Vertical exhaust Towing device</p>	<p><b>International Standards for Machines and Production</b></p> <p><i>Quality:</i> DIN/ISO 9001</p> <p><i>Safety:</i> CE - Criteron Machine guide-lines 98/37/EC ROPS ISO 3471 FOPS ISO 3449 Tipping load / Payload: ISO/DIS 14397-1 EMV (Electromagnetic Compatibility) 89/336/EEC plus supplement</p> <p><i>Environment:</i> DIN/ISO 14001 Sound insulation: 86/622/EEC, amendment 95/27/EC</p>
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## OPTIONAL EQUIPMENT

<p><b>Engine</b> Pre-heater Catalytic converter Precleaner with ejector Two-stage filter (oil bath)</p> <p><b>Hydraulics</b> Additional hydraulics for 3th hydraulic circuit</p>	<p>4th hydraulic circuit Initial filling of biodegradable hydraulic oil</p> <p><b>Cab, Exterior</b> ROPS-Bar (folding/rigid) Protective roof for ROPS-Bar Sliding window in the right door Working lights (front/rear)</p>	<p><b>Cab, Interior</b> Handthrottle Hand control inch valve Heating independant of engine Radio</p> <p><b>Working Equipment</b> Boom suspension system Extended lift arms</p>	<p><b>Safety</b> Protective guards for: Main head lights Working lights Rear lights Rotating beacon Audible reverse alarm Counterweight</p>
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## ATTACHMENTS

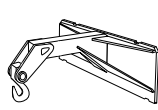
A small selection of the most popular attachments.  
Further buckets and attachments available on request.



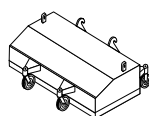
Loading Fork



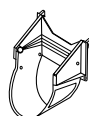
4-in-1 Bucket



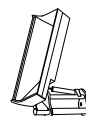
Material Handling Arm



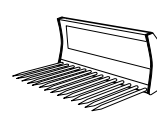
Sweeper



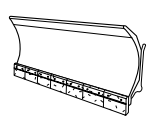
Tree Transplanting Bucket



Side-Tip Bucket



Hay/Manure Fork



Snow Plow

Under our policy of continuous product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

# VOLVO

Volvo Construction  
Equipment

Ref. No. 21 3 430 5518  
Printed in Germany 2001.02  
Volvo, Konz

English  
CWL  
2908353