

# Zettelmeyer ZL 1002 i/ ZL 1002 Si



*Universal Allrounder for highly economical production*

- **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
- **Energy-saving, servo-assisted load sensing system** for economic use
- **Strong TP-loader linkage,** perfect for loading fork applications: high breakout and lift forces combine with optimum parallelity of the attachment.
- **Operator-selected 100% differential lock** in 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**
  - Multi-function lever
  - Audio-visual warning system for monitoring operating systems
- **Gross Power:**  
SAE J1995 69/92 kW/hp  
**Net Power:**  
SAE J 1349 66/88 kW/hp
- **Operating Weight:**  
7,6 t
- **Bucket Capacities:**  
1,2- 2,5 m<sup>3</sup>

**Zettelmeyer**



## ENGINE

**Engine:** in-line 4-cylinder, 4-stroke, direct injection diesel engine, with turbocharging, water cooled.

### Three-stage air cleaning:

1. Pre-cleaner with ejector
2. Dry type air filter with indicator
3. Safety filter

Make	KHD	
Type	BF 4M 1013 E	
Gross power @	2100	r/min
SAE J1995	69/92	kW/hp
Net power @	2100	r/min
SAE J1349	66/88	kW/hp
DIN 70020 / 6271	66/88	kW/hp
Max. torque @	1400	r/min
SAE J1349 netto	392	Nm
DIN 70020 / 6271	392	Nm
No. cylinders	4	
Cubic capacity	4,76	l
Bore	108	mm
Stroke	130	mm

## Electrical system

Rated voltage	24	V
Battery voltage	2 x 12	V
Battery capacity	2 x 74	Ah
Alternator rating	1540/55	W/A
Starter motor output	4,0	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 lock:** 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.	290	mm
Track	1753	mm
Angle of oscillation	± 10	°
Standard tires	Size	15.5-25
	Rim	12 x 25

### Speed, max. ZL 1002 i

1st range forward/reverse	6,5	km/h
2nd range forward/reverse	20,0	km/h

### Speed, max. ZL 1002S i

1st range forward/reverse	6,5	km/h
2nd range forward/reverse	16,0	km/h
3rd range forward/ ---	33,0	km/h



## SERVICE FILL CAPACITIES

Engine	12,0	l
Fuel tank	100,0	l
Front axle, total	12,5	l
Rear axle, incl. drop-box	13,25	l
Hydraulic tank, incl. hydraulic system	110,0	l



## BRAKING SYSTEM

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

1. Wear-free, hydrostatic inching brake
2. Central disc brake, actuated via "inch/brake pedal". First stage of pedal application actuates the inching facility, the last third of pedal application applies the central disc brake.
3. **ZL1002Si only**, wet inboard mounted multi-disc brakes

**Parking brake:** wet inboard mounted multi-disc brakes.



## HYDRAULIC SYSTEM

Load-sensing hydraulic system with self-controlling power distribution. Thermostatically controlled oil circuit with integrated cooling system.

**Hydraulic control valve:** servo-controlled 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.

Lifting frame:	TP loader-linkage
	2 Lift cylinders
	1 Tilt cylinder

Axial piston pump		
Flow	106	l/min
@ engine rpm	2100	r/min
Relief valve pressure	23	MPa

Lift time (loaded)	6,0	s
Lowering time (empty)	5,0	s
Dump time	1,5	s
Crowd time	1,8	s



## STEERING

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

**Steering pump:** gear-type pump

**Steering cylinder:** 2 double acting steering cylinders

Steering		
Angle of articulation	± 40	°
Steering pump		
Flow	44	l/min
@ engine rpm	2100	r/min
Relief valve pressure	15	MPa



# Highly Productive with cost-saving Hydraulics - the Newly Equipped ZL1002 i

High productivity achieved by particularly economic operation



### .....so comfortable

The roomy cab offers a high level of operator comfort making operation fun: well laid out cockpit, individually adjustable, comfortable operator seat, variable ventilation and heating. Phantastic panoramic view for precise control of machine. Simplified operation using the dual inch/brake pedal and the multi-function lever.



### .....so reliable

Zettelmeyer wheel loaders - uncompromising performance. Tried-and-tested, high-quality components and carefully planned design: single engine cover and transversely-mounted engine for simple service. Durable hydrostatic transmission for constant power. Strong diesel engines with high power potential. Exemplary environmental features: economic use of fuel, low emissions during operation and reduced noise emission.



### Operation as you choose!

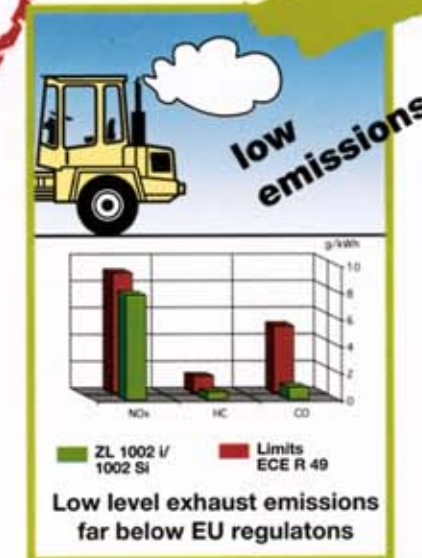
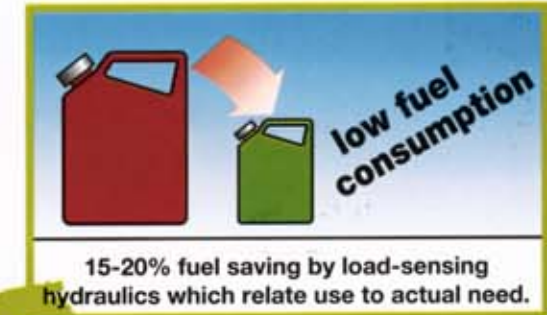
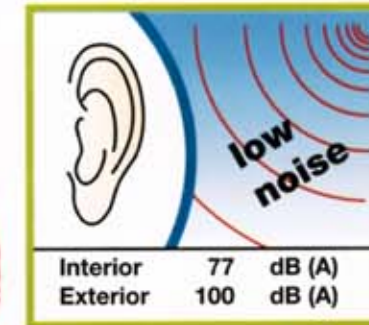
New: select direction of travel, neutral and differential lock by simply pressing a button on the multi-function lever or conventionally using the direction lever on the steering column.



**NEW**



**TP loader-linkage**  
combined loader-linkage with tried-and-tested advantages: parallelity throughout the lifting range and controlled dumping even from the highest lifting positions.



Not just extremely manoeuvrable, but also extremely quick. The ZL1002Si with a top speed of 33 kmh.

### .....so mobile

Difficult terrain? No problem as every Allrounder has operator-selected 100% differential lock standard in both axles. And, in addition, portal axles with high ground clearance. Optimum manoeuvrability is ensured even on twisty, narrow sites due to the articulating-oscillating joint and the machines' special design: no single element protrudes beyond the width defined by the wheel rim - even the doors stop open within this contour.



### .....so versatile

You need more than just a wheel loader? A clear case for a Zettelmeyer Allrounder! With the correct attachments, it replaces a whole series of expensive special machines. Loading forks, sweepers, buckets...with a choice of over 60 attachments, the right one for your application is bound to be available. Re-equipping is child's play with the newly strengthened, standard hydraulic quick-coupler.

In an instant, your wheel loader becomes a multi-functional Allrounder



Approach



Attach



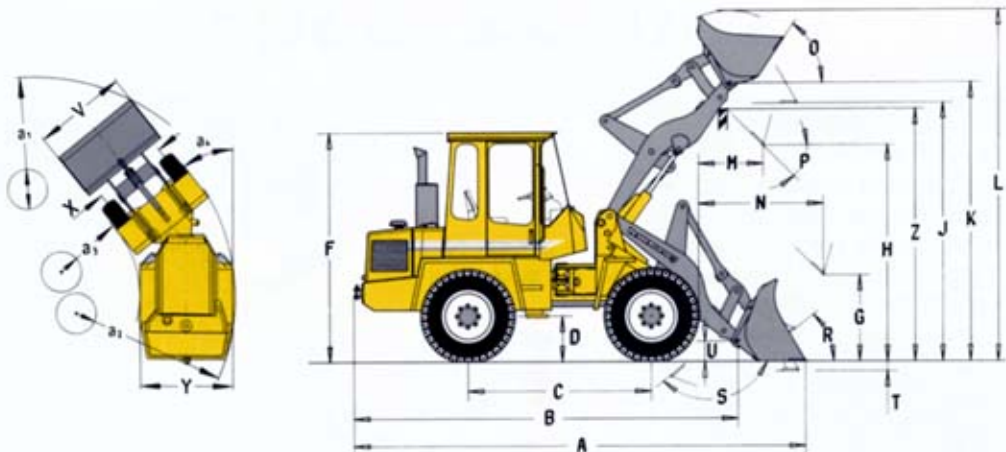
Ready!



**DIMENSIONS\***



- B 4920 mm
- C 2400 mm
- D 590 mm
- F 2860 mm
- G 1100 mm
- J 3210 mm
- K 3470 mm
- O 57 °
- P 45 °
- R 46 °
- S 68 °
- U 257 mm
- X 1753 mm
- Y 2160 mm
- Z 3150 mm
- a<sub>2</sub> 4450 mm
- a<sub>3</sub> 2250 mm
- a<sub>4</sub> ± 40 °



\* measured with bucket 1,2 m<sup>3</sup>, Zettelmeyer quick-change mounting and 15.5-25 tires



**OPERATING DATA**

Bucket Type	General Purpose Bucket				Light Material Bucket		4-in-1 Bucket	High-Tip Bucket	
	+/-				-		+	-	
with / without (+ / -) teeth									
Capacity heaped	m <sup>3</sup>	1,2	1,3	1,5	2,0	2,5	1,1	2,0	
Material density	kg/m <sup>3</sup>	1800	1600	1400	1000	800	1800	900	
Static tipping load, straight (ISO)	kg	5300	5300	5200	4950	4900	5000	4600	
Static tipping load, full turn (39° ISO)	kg	4320	4300	4200	4050	4000	4000	3620	
Hydraulic lifting capacity, max.	kN	74,0	74,0	71,8	67,8	66,8	70,0	61,0	
Breakout force	kN	64,5	61,6	53,9	44,0	38,5	59,3	-	
A Total length	mm	5780	5815	5930	6120	6270	5830	6340	
L Lift height, max.	mm	4400	4420	4520	4660	4870	4400	5370	
V Bucket width	mm	2250	2250	2250	2250	2250	2250	2250	
a <sub>1</sub> Clearance circle	mm	9600	9630	9680	9800	9900	9630	9950	
T Digging depth	mm	70	70	70	60	60	55	60	
H Dump height	mm	2715	2690	2590	2450	2340	2650	3880	
M Reach at max. height	mm	800	815	890	1015	1115	815	1270	
N Reach, max.	mm	1545	1560	1635	1750	1860	1560	2330	
Operating weight	kg	7600	7610	7620	7650	7690	7780	7890	
<b>Loading Fork, centre of gravity 500 mm</b>									
Tipping load, full turn acc. to ISO 8313	kg	3350							
Payload acc. to EN 474-3, 80%	kg	2650							
Payload acc. to EN 474-3, 60%	kg	2000							

**STANDARD EQUIPMENT**

**Cab, Exterior**

Removable ROPS/FOPS-cab with flexible mountings

Walk-through cab  
Lockable doors

Tinted safety glass (windscreen)  
Windscreen wiper, front and rear  
Windscreen washer, front and rear  
Sliding window in the left door  
Door stops  
External rear view mirrors (right and left)

**Cab, Interior**

4-way adjustable driver's seat  
Seat belt  
Sunblind  
Heater with air-filter and defroster  
Cab ventilation  
Cab lighting  
Heated rear windscreen  
Storage box in the cab  
Tool box in the cab

**Instrument Panel**

with symbols:  
Instrument lighting  
24 V power socket  
Horn  
Safety start

Gauges:  
Engine temperature  
Fuel gauge  
Hour meter  
Drive system oil temperature  
**ZL1002Si:** Tachometer

Indicator lamps for:  
Indicators (left/right)  
Parking brake  
Main beam  
Pre-heater  
Battery charging  
Differential locks  
Hazard warning flashers  
Direction (forward/reverse)  
**ZL1002Si:** Brake fluid pressure

Central audio-visual alarm for:  
Engine temperature  
Engine oil pressure  
Drive system oil temperature  
Air filter restriction  
Parking brake

**Exterior Lighting**

Main head lights (Halogen): full/dipped/asymmetrical  
Parking lights  
Rear lights  
Brake lights  
Direction indicators  
Hazard warning lights

**Powertrain**

Diesel engine with direct fuel injection  
Cold start aid  
Dry-type, three-stage air filter  
Pre-cleaner with ejector

Alternator 55 A

Hydrostatic drive  
Operator-selected 100% differential locks  
Tires 15.5-25

**Hydraulic System**

Axial piston pump  
Gear-type pump  
Control valve three-spool system  
Third hydraulic circuit

**Service and Maintenance**

Tool kit

**Working Equipment**

Working lights, front  
Multi-function lever  
Automatic bucket leveller  
Hydraulic quick-change attachment carrier

**Carriage Body**

Fenders and mudguards, front/rear  
Lockable engine hood  
Lockable fuel-tank cap  
Vertical exhaust  
Towing device

Complete system in accordance with German road traffic regulations  
Sound insulation acc. to EU-guidelines  
Safety standards according to EU-directive 89/392/EWG



**OPTIONAL EQUIPMENT**

**Cab**

ROPS-Bar (rigid)

Handthrottle  
Hand control inch valve  
Heating independent of engine  
Radio  
Sliding window in the right door

**Safety**

Protective guards for  
Main head lights  
Working lights  
Rear lights  
Rotating beacon  
Audible reverse alarm

**Powertrain**

Pre-heater  
Catalytic converter  
Two-stage air filter(with oil bath)

**Service and Maintenance**

Wheel nut wrench

**Working Equipment**

Working lights rear  
ZLS load stabilizer  
Volvo attachment carrier  
Extended lift arms

Extra hydraulics, rear  
Additional hydraulics for attachment carrier  
4th hydraulic circuit  
Boom kick out

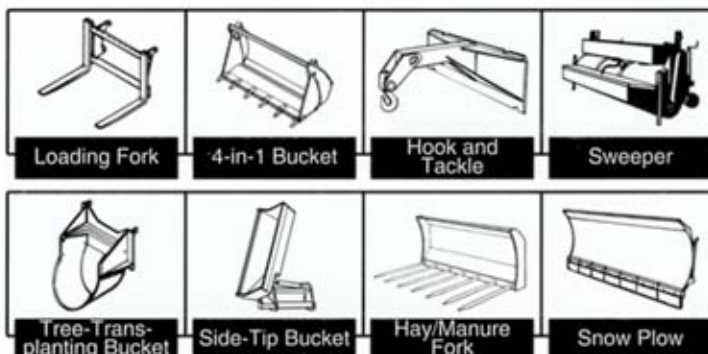
**ATTACHMENTS**

**Buckets**

of various sizes  
1,2 - 2,5 m<sup>3</sup> (1,6 - 3,3 yd<sup>3</sup>)  
with or without teeth

Wide range of bucket types, eg  
Light material bucket (with or without teeth)

High-tip bucket (without teeth)  
Side-tip Bucket (without teeth)  
4-in-1 bucket (with teeth)  
Brick bucket (with teeth)  
Horticultural bucket  
Bolt-on cutting edge



Further buckets and attachments available on request

**Selection of Attachments, eg for**

- Timber industry:
  - Log grapple
  - Loading fork with log grapple
- Road building/industry:
  - Loading fork
  - Hook and tackle
- Municipal application:
  - Sweeper
  - Angle dozer blade
  - Snow plow
- Horticulture and agriculture:
  - Hay/Manure fork
  - Front scarifier

*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.*

**Zettermeyer GmbH**

Max-Planck-Straße 1 • D-54329 Konz-Könen  
Postfach 13 40 • D-54323 Konz  
GERMANY

Ref. No. Zettermeyer K. 29054710  
Volvo Parts 21 1 430 5112  
Printed in Germany 3.97 ENGLISH