

Zettelmeyer

ZL 402



The Compact Allrounder - Top Performance on Narrow Sites

- **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 parallel loader linkage**
for excellent loading-fork lifting capability
- **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** for extra performance
Audio-visual warning system for monitoring operating systems
 - **Gross Power:**
SAE J1995 28/38 kW/hp
 - Net Power:**
SAE J1349 27/36 kW/hp
 - **Operating Weight:**
3,4 t (7500 lb)
 - **Bucket Capacities:**
0,5 - 1,0 m³ (0,7-1,3 yd³)

Zettelmeyer



ENGINE

Engine: in-line 3-cylinder 4 stroke, direct injection diesel engine, oil/air cooled.

Two-stage air cleaning:

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

Make	KHD			
Type	F 3 L 1011			
Gross power @	2300	r/min	(38,3	r/s)
SAE J1995	28	kW	(38	hp)
Net power @	2300	r/min	(38,3	r/s)
SAE J1349	27	kW	(36	hp)
DIN 70020 / 6271	27	kW	(36	hp)
Max. torque @	1800	r/min	(30	r/s)
SAE J1349 netto	114	Nm	(84	lbf/ft)
DIN 70020 / 6271	114	Nm	(84	lbf/ft)
No. cylinders	3			
Cubic capacity	2,05	l	(125	in ³)
Bore	91	mm	(3,6	in)
Stroke	105	mm	(4,1	in)

Electrical System

Rated voltage	12	V		
Battery voltage	12	V		
Battery capacity	74	Ah		
Alternator rating	840/60	W/A		
Starter motor output	2,2	kW	(3,0	hp)



DRIVETRAIN

Transmission: hydrostatic transmission, full power shift under load, both when changing direction (forward and reverse) and between first and second range. Maximum drawbar force can be achieved in each range. Inch/brake pedal for variable machine speed control and power transfer to bucket hydraulics at constant engine rpm.

Axles: all-wheel drive by two rigid 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.	230	mm	(9"	in)
Track	1340	mm	(52,7"	in)
Angle of oscillation	± 10	°		

Standard tires	Size	10.5-18
	Rim	9 x 18

Speed, max.				
1st range				
forward/reverse	8,0	km/h	(5,0	mile/h)
2nd range				
forward/reverse	20,0	km/h	(12,4	mile/h)



SERVICE FILL CAPACITIES

Engine	7,0	l	(1,9	US gal)
Fuel tank	42,0	l	(11,1	US gal)
Front axle, total	5,5	l	(1,5	US gal)
Rear axle, incl. drop-box	8,0	l	(2,1	US gal)
Hydraulic tank, incl. hydrostatic system	60,0	l	(15,9	US gal)



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 and electrically switched fan.

Hydraulic control valve: 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.

Lifting frame:	Parallel loader-linkage
	1 Lift cylinders
	1 Tilt cylinder

Hydraulic pump				
Flow	32	l/min	(8,5	US gal/ min)
@ engine rpm	2300	r/min	(38,3	r/s)
Relief valve pressure	21	MPa	(3050	psi)

Lift time (loaded)	6,0	sec.
Lowering time (empty)	5,0	sec.
Dump time	2,5	sec.
Crowd time	1,2	sec.



STEERING

Hydrostatic steering. Central articulating joint with damping effect.

Steering pump: gear-type pump

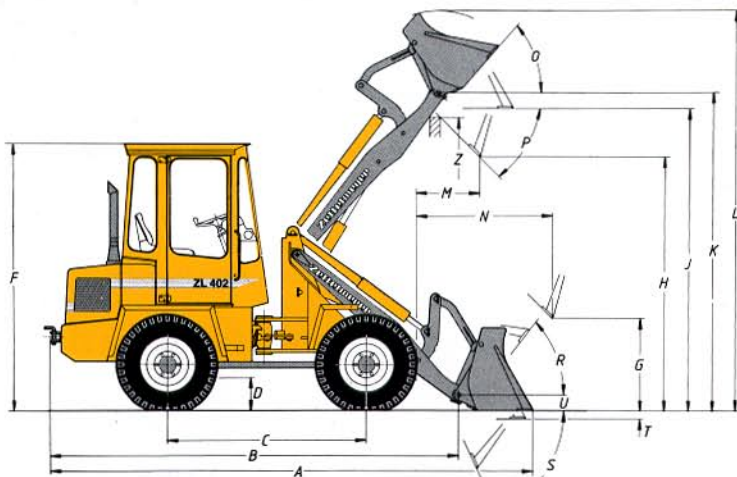
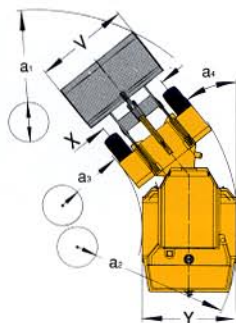
Steering cylinder: 1 double acting steering cylinder

Steering				
Angle of articulation	± 40	°		
Steering pump				
Flow	12	l/min	(3,2	US gal/min)
@ engine rpm	2300	r/min	(38,3	r/s)
Relief valve pressure	18	MPa	(2610	psi)

DIMENSIONS*



- B 3790 mm (12' 5" ft in)
- C 1850 mm (6' 7" ft in)
- D 305 mm (1' 0" ft in)
- F 2490 mm (8' 2" ft in)
- G 910 mm (3' 0" ft in)
- J 2835 mm (9' 4" ft in)
- K 2980 mm (9' 9" ft in)
- O 50 °
- P 45 °
- R 55 °
- S 65 °
- U 145 mm (0' 6" ft in)
- X 1340 mm (4' 5" ft in)
- Y 1610 mm (5' 3" ft in)
- Z 2770 mm (9' 1" ft in)
- a₂ 3375 mm (11' 7" ft in)
- a₃ 1740 mm (5' 9" ft in)
- a₄ ± 40 °



* measured with bucket 0,5 m³ (0,7 yd³), standard quick-change mounting and 10.5-18 tires



OPERATIONAL DATA

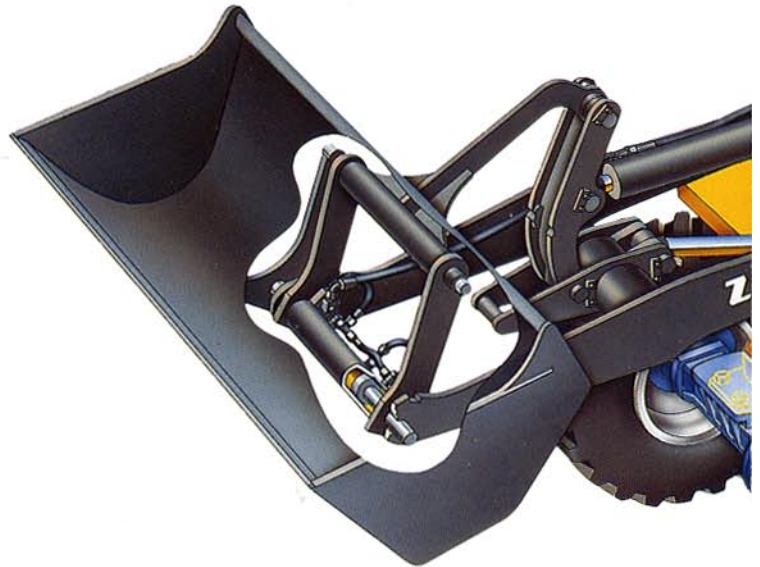
Bucket Type (quick-change mounting standard equipment) Edge: straight (G) with / without (+ / -) teeth	General Purpose Bucket		Light Material Bucket		4-in-1 Bucket	High-Tip Bucket	
	G +/-	G -	G +	G -	G +	G -	
Capacity heaped	m ³ (yd ³)	0,5 (0,7)	0,6 (0,8)	0,8 (1,0)	1,0 (1,3)	0,5 (0,7)	1,0 (1,3)
Material density	kg/m ³ (lb/yd ³)	1900 (3200)	1600 (2700)	1200 (2000)	900 (1500)	1700 (2900)	800 (1350)
Static tipping load, straight (ISO)	kg (lb)	2500 (5510)	2450 (5400)	2380 (5250)	2300 (5070)	2230 (4920)	2150 (4740)
Static tipping load, full turn (40° ISO)	kg (lb)	2050 (4520)	2020 (4450)	1950 (4300)	1870 (4120)	1780 (3920)	1730 (3810)
Hydraulic lifting capacity, max.	kN (lbf)	31,0 (6970)	30,5 (6850)	29,5 (6630)	28,5 (6400)	28,0 (6290)	26,6 (5980)
Breakout force	kN (lbf)	33,0 (7420)	30,5 (6850)	26,4 (5930)	22,7 (5100)	32,0 (7190)	- (-)
A Total length	mm (ft in)	4490 (14' 9")	4540 (14' 11")	4640 (15' 3")	4760 (15' 7")	4550 (14' 11")	4845 (15' 10")
L Lift height, max.	mm (ft in)	3790 (12' 5")	3830 (12' 7")	3920 (12' 10")	4020 (13' 2")	3730 (12' 3")	4330 (14' 2")
V Bucket width	mm (ft in)	1650 (5' 5")	1650 (5' 5")	1800 (5' 11")	1800 (5' 11")	1650 (5' 5")	1800 (5' 11")
a ₁ Clearance circle	mm (ft in)	7300 (23' 11")	7350 (24' 1")	7500 (24' 7")	7600 (24' 11")	7350 (24' 1")	7650 (25' 1")
T Digging depth	mm (ft in)	70 (0' 3")	70 (0' 3")	70 (0' 3")	70 (0' 3")	105 (0' 4")	80 (0' 3")
H Dump height	mm (ft in)	2410 (7' 11")	2350 (7' 9")	2280 (7' 6")	2190 (7' 2")	2350 (7' 9")	3070 (10' 1")
M Reach at max. height	mm (ft in)	630 (2' 1")	650 (2' 2")	700 (2' 4")	780 (2' 7")	570 (1' 10")	950 (3' 1")
N Reach, max.	mm (ft in)	1320 (4' 4")	1350 (4' 5")	1390 (4' 7")	1480 (4' 10")	1270 (4' 2")	1700 (5' 7")
Operating weight	kg (lb)	3400 (7500)	3410 (7520)	3430 (7560)	3460 (7630)	3580 (7890)	3590 (7910)
Loading Fork, centre of gravity 500 mm (1 ft 6 in)				with additional counter-weight 230 kg (510 lb)			
Tipping load, full turn acc. to ISO 8313	kg (lb)	1625 (3580)		1835 (4050)			
Payload acc. to EN 474-3, 80%	kg (lb)	1300 (2870)		1450 (3200)			
Payload acc. to EN 474-3, 60%	kg (lb)	975 (2150)		1100 (2430)			



Small, but a true Allrounder!

You need a compact multi-purpose tool? Then this Zettelmeyer mini wheel loader is the right solution for your problems. Select from a wide range of attachments! With quick-coupler, the machine is equipped for your job within seconds - all controlled from the operator's seat. Expensive idle times are eliminated on construction sites, farms, in gardening, landscaping or municipal jobs, maximising use of your investment, and, irrespective of summer or winter -

It's always Zettelmeyer Season!



A ZL 402 Goes in and out of Everything!

With its small dimensions and tight turning circle, the ZL 402 is specially suited for small and narrow sites. With 100% differential locks and high ground clearance, the ZL 402 makes easy work of heavy ground conditions. On sensitive ground, eg when laying paving stones, the machine can steer without damaging the surface due to its automotive differentials.

Ideal for Pallets on Construction Sites.

You will appreciate the ZL 402's parallel linkage particularly when working with loads on a loading fork or with a telescopic lifting-arm.

Parallel lifting of all attachments keeps the load stable in every loading position.



Extra Comfort for Increased Operator Performance

A suitable ergonomic environment is of paramount importance for good operator performance. The ZL 402 has a clearly designed cab interior.

Operator Comfort...

- Spacious, detachable cab
- Reliable heating and ventilation system
- 4-way adjustable operator's seat

... for smooth Working Cycles

- Clearly designed dashboard
- Audio-visual warning system
- Single lever control for working hydraulics and differential locks
- Single pedal for inching and braking



Hydrostatic Drive - Constant Power you can rely on!

Hydrostatic drive maintains a constant drawbar pull even when the working hydraulics are at maximum pressure. The automatic drive allows the operator to concentrate fully on the job. Gears can be shifted under full load in work, cycles remain smooth and productivity stays constantly high.

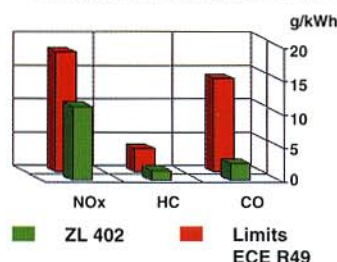
The hydrostatic drive serves as the main braking system - a further advantage, as this brake is virtually wear-free.

The Power Source: Environmentally-friendly Performance

The ZL 402 is equipped with the latest series Deutz 1011 engine. The result leaves nothing to be desired. High performance, economical fuel consumption along with low acoustic and low exhaust emissions.

Transverse engine allows easy access to major components. Daily maintenance and servicing are made simple by eye-level check points. Resultant time-savings leave you with cash-in-hand.

Exhaust Emissions ZL 402



Exhaust emissions of the ZL402 are considerably lower than those required by ECE R49.

STANDARD EQUIPMENT

Cab, Exterior

Removable ROPS-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
Storage box in the cab
Tool box

Instrument Panel

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

Gauges:
Fuel gauge
Hour meter
Drive system oil temperature

Indicator lamps for:
Direction indicator
Parking brake
Main beam
Pre-heater
Battery charging
Differential locks
Hazard warning flashers

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 air filter

Alternator 60 A

Hydrostatic drive
Operator-selected 100% differential locks

Tires 10.5-18

Hydraulic System

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

Service and Maintenance

Tool kit

Working Equipment

Single lever control
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 EC-directive 89/392/EEC

CE Certification

OPTIONAL EQUIPMENT

Cab

ROPS-canopy
ROPS-Bar (folding)
Handthrottle
Hand control inch valve
Heating independent of engine
Radio

Sliding window in the right door
Hinge-out skylight

Safety

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

Powertrain

Pre-heater
Extra fuel filter
Dual filter with oil bath

Service and Maintenance

Wheel nut wrench

Working Equipment

Working lights (front and rear)
ZLS load stabilizer
Extended lift arms
PTO
Extra hydraulics, rear
Additional hydraulics for attachment carrier
4th hydraulic circuit
Hydraulic pump 52 l/min (13,7gal/min)

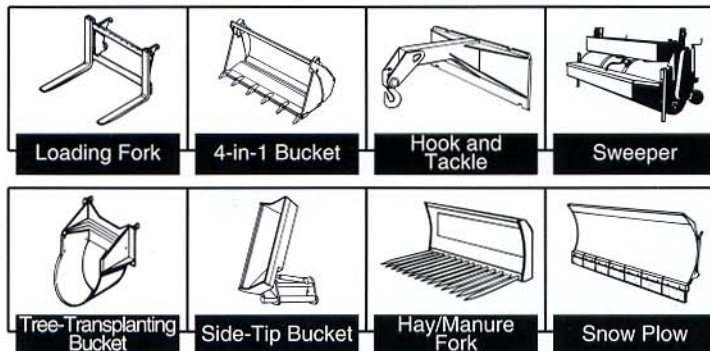
ATTACHMENT

Buckets

of various sizes
0,5 - 1,0 m³ (0,7 - 1,3 yd³)
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.

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