

# Zettelmeyer

## ZL 402

### Series C



#### **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**
  - Multi-function lever
  - 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 m<sup>3</sup> (0,7-1,3 yd<sup>3</sup>)

**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 1011F			
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 <sup>3</sup> )
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.

Multi-function lever for change of direction, differential lock and use of the control valve.

**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	8,0	km/h	(5,0	mile/h)
forward/reverse				
2nd range	20,0	km/h	(12,4	mile/h)
forward/reverse				



## 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

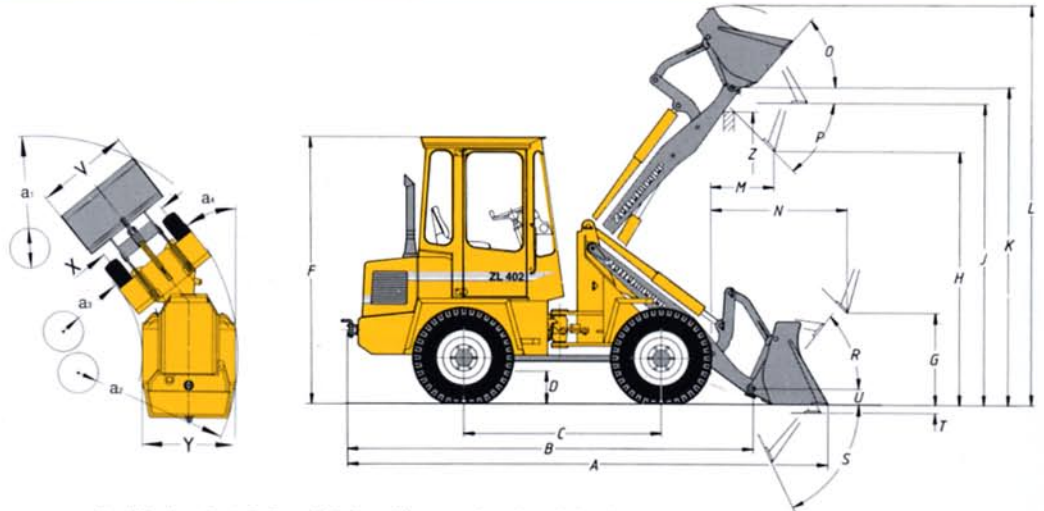
Steering				
Angle of articulation	± 40		°	
Steering pump				
Flow	12	l/min	(3,2	US gal/min)
@ engine rpm	2300	r/min	(38,3	r/s)
Relief valve pressure	18	MPa	(2610	psi)

# ZL 402 Series C



## DIMENSIONS\*

B	3790	mm	(12' 5" ft in)
C	1850	mm	( 6' 1" 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)
a <sub>2</sub>	3375	mm	(11' 7" ft in)
a <sub>3</sub>	1740	mm	( 5' 9" ft in)
a <sub>4</sub>	± 40	°	



\* measured with bucket 0,6 m<sup>3</sup> (0,8 yd<sup>3</sup>), standard quick-change mounting and 10.5-18 tires



## OPERATING DATA

Bucket Type (quick-change mounting standard equipment)		General Purpose Bucket		Light Material Bucket		4-in-1 Bucket	High-Tip Bucket
		G +/-	G -	G +	G -		
Capacity heaped	m <sup>3</sup> (yd <sup>3</sup> )	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 <sup>3</sup> (lb/yd <sup>3</sup> )	1900 (3200)	1700 (2900)	1200 (2000)	900 (1500)	1700 (2900)	800 (1350)
Static tipping load, straight (ISO)	kg (lb)	2500 (5510)	2500 (5510)	2380 (5250)	2300 (5070)	2230 (4920)	2150 (4740)
Static tipping load, full turn (39° ISO)	kg (lb)	2050 (4520)	2050 (4520)	1950 (4300)	1870 (4120)	1780 (3920)	1730 (3810)
Hydraulic lifting capacity, max.	kN (lbf)	31,0 (6970)	31,0 (6970)	29,5 (6630)	28,5 (6400)	28,0 (6290)	26,6 (5980)
Breakout force	kN (lbf)	33,0 (7420)	33,0 (7420)	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")	3840 (12' 0")	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 <sub>1</sub> Clearance circle	mm (ft in)	7300 (23' 11")	7300 (23' 11")	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")	2410 (7' 11")	2280 (7' 6")	2190 (7' 2")	2350 (7' 9")	3070 (10' 1")
M Reach at max. height	mm (ft in)	630 (2' 1")	630 (2' 1")	700 (2' 4")	780 (2' 7")	570 (1' 10")	950 (3' 1")
N Reach, max.	mm (ft in)	1320 (4' 4")	1320 (4' 4")	1390 (4' 7")	1480 (4' 10")	1270 (4' 2")	1700 (5' 7")
Operating weight	kg (lb)	3400 (7500)	3400 (7500)	3430 (7560)	3460 (7630)	3580 (7890)	3590 (7910)
<b>Loading Fork, centre of gravity 500 mm (1 ft 6 in)</b>				<b>with additional counter-weight 230 kg (510 lb)</b>			
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)			

# Economic and Cost-saving - the New

## High performance at an acceptable price



### ...so comfortable

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



### Operation as you choose!

New: control 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.



### ...so mobile

Difficult terrain? No problem as every Allrounder has operator-selected 100% differential lock standard in both axles. 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. The compact ZL402 Series C is the first choice wherever the working area is very restrictive.



**Parallel loader-linkage for good loading fork features - parallel lift of the working equipment for smooth loading and unloading at every lift height.**

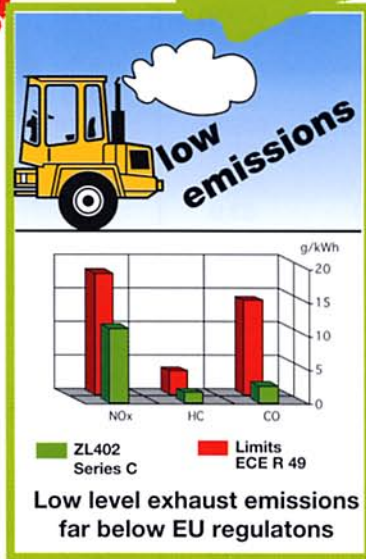
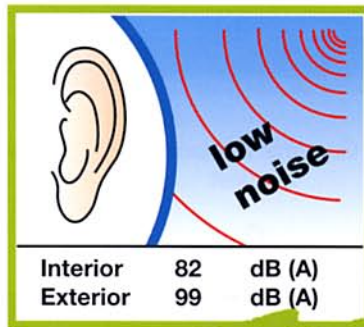
### ...so versatile

You need more than just for a Zettelmeyer Allround attachments, it replaces a special machines. Loading buckets...with a choice of right one for your application. Re-equipping is child's play strengthened, standard h

# Generation ZL402 Series C

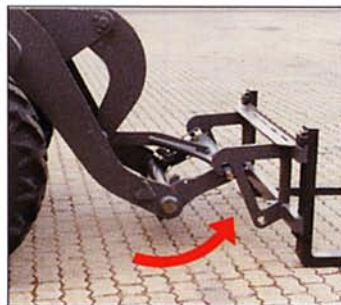
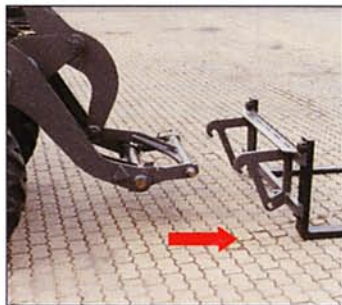
## ...so reliable

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.



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

...wheel loader? A clear case for! With the correct whole series of expensive j forks, sweepers, over 60 attachments, the on is bound to be available. y with the newly draulic quick-coupler.



Approach

-

Attach

-

Ready!

**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 airfilter 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:  
Indicators (left/right)  
Parking brake  
Main beam  
Pre-heater  
Battery charging  
Differential locks  
Hazard warning flashers  
Direction (forward/reverse)  
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**

Multi-function lever  
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**

Handthrottle  
Hand control inch valve  
Heating independent of engine  
Radio  
Sliding window in the right door  
Hinge-out skylight  
ROPS-Bar (folding)  
Canopy for ROPS-Bar

**Safety**

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

**Powertrain**

Pre-heater  
Extra fuel filter (std USA)  
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)

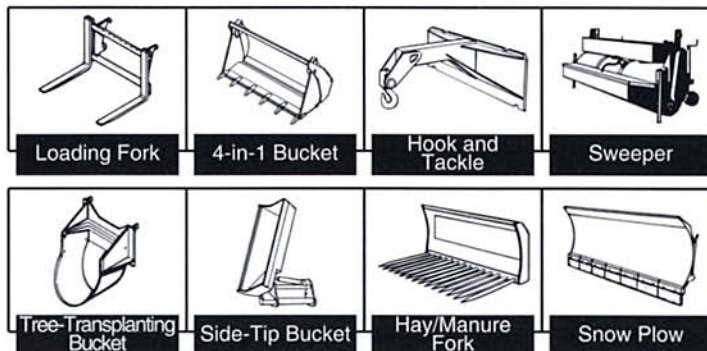
**ATTACHMENTS**

**Buckets**

of various sizes  
0,5 - 1,0 m<sup>3</sup> (0,7 - 1,3 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

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