

121E

ARTICULATED WHEEL LOADER TIER II CERTIFIED

ENGINE

| | |
|------------------------------|--|
| Model | Deutz F4M2011, Tier 2 certified |
| Type | 4-stroke |
| Cylinders | 4 |
| Bore/Stroke | 3.70 in x 4.4 in (94 X 112 mm) |
| Displacement | 190 in ³ (3.11 L) |
| Fuel injection | Direct |
| Fuel | #2 Diesel |
| Fuel filter | Replaceable, full flow spin-on cartridge |
| Air filter | Dry type element w/warning restriction indicator |
| Radiator | |
| Core type | Staggered |
| Fan | |
| Style | Hydraulic driven puller |
| Lubrication/cooling oil pump | |
| Style | Integral |
| Engine oil | |
| Pump | Deep sump plate cooler with pressurized under-piston nozzles |
| Pump operating angle ratings | |
| Side-to-side | Rated 35° |
| Fore and aft | Rated 35° |
| Oil filtration | Replaceable, full flow spin-on cartridge |
| Engine speeds (rpm) | |
| Rated speed, full load | 2300 |
| Low idle | 900-950 |
| High idle, no load | 2390-2480 |
| Horsepower – Rated | |
| Gross | 59.0 (44.0 kW) @ 2400 rpm |
| Net | 57.0 (42.0 kW) @ 2400 rpm |
| Peak torque @ 1700 rpm | |
| Gross | 140 lb-ft (190 N-m) |
| Net | 131 lb-ft (178 N-m) |
| Torque rise @ 2000 rpm | 6.00% |

NOTE: Gross horsepower and torque per SAE J1995.
Net horsepower and torque per SAE J1349.

DRIVETRAIN

| | | |
|--|---|-----------------|
| Transmission | Hydrostatic transmission | |
| Pump relief | 6,743 psi (46 500 kPa) | |
| Pump flow | 35.5 gpm (134.4 L/min) | |
| Differential | Front limited slip w/45% transfer on front axles | |
| Front axle | | |
| Differential ratio | 2.91 | |
| Planetary ratio | 6.00 | |
| Final axle ratio | 17.45 | |
| Planetaries | Outboard | |
| Service brakes | Hydraulically actuated, dry disc w/accumulator to front axle & joint shaft | |
| Parking brake | Mechanical | |
| Travel speeds – mph (km/h) | w/14.5 X 20 tires | |
| | Forward | Reverse |
| Low | 0-3.7 (0-6) | 0-3.7 (0-6) |
| High | 0-12.4 (0-20) | 0-12.4 (0-20) |
| NOTE: Travel speeds at full engine throttle. | | |
| Optional HTS (High Travel Speed) | | |
| | Forward | Reverse |
| Low | 0-3.1 (0-5.0) | 0-3.1 (0-5.0) |
| High | 0-10.0 (0-16.0) | 0-10.0 (0-16.0) |
| HTS engaged | 0-21.7 (0-35) | 0-21.7 (0-35) |
| NOTE: Travel speeds at full engine throttle. | | |

ELECTRICAL

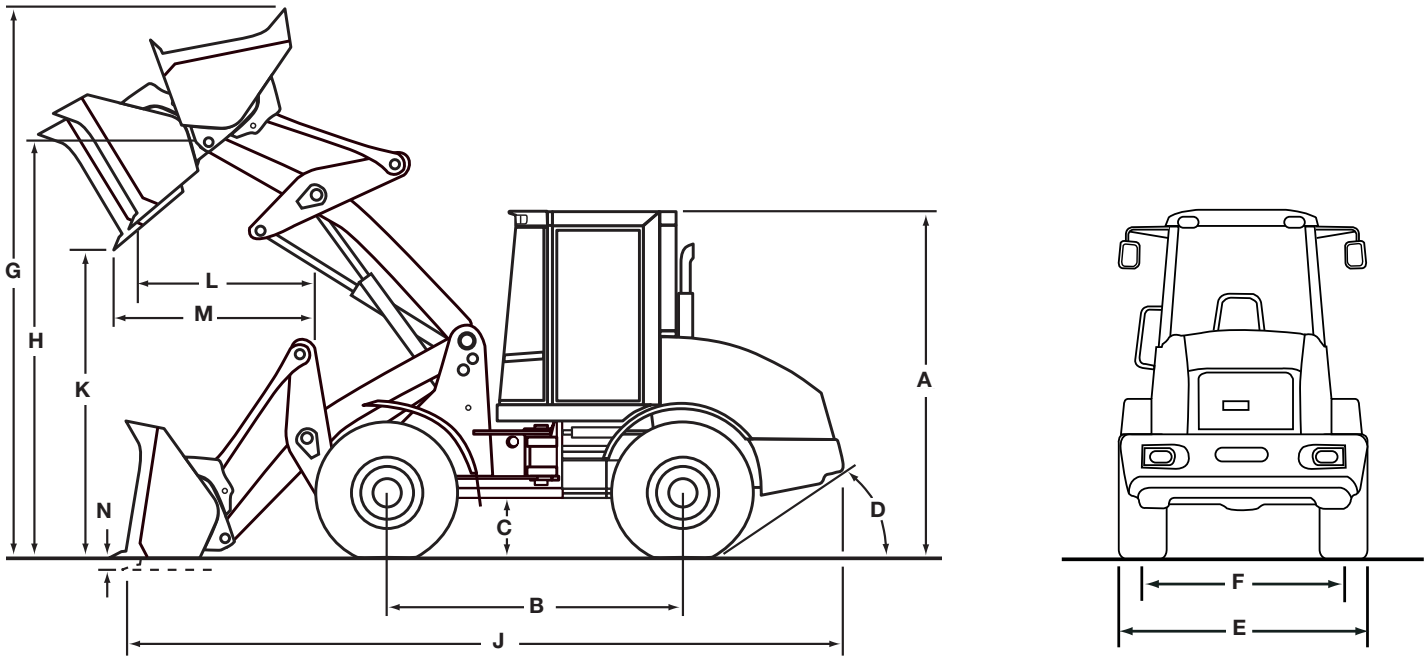
| | |
|------------|---------------------------|
| Voltage | 12 Volts, negative ground |
| Alternator | 55 amp |
| Batteries | 92 AHR, 750 CCA |

HYDRAULICS

| | |
|----------------------------|---|
| Pump (steering/ implement) | Open-centered pressure/flow compensated |
| Fixed gear type | 17.7 gpm @ 2400 rpm @ 3916 psi (67 L/min @ 2400 rpm @ 27 000 kPa) |
| Loader control valve | Open-center, 1 lever loader control w/forward/neutral/reverse switch, float detent |
| Loader auxiliary steering | Hydraulic orbital center-pivot articulating w/on-demand oil flow |
| Main relief pressure | 3,626 psi (25 000 kPa) |
| Filtration | 15-micron, full flow replaceable cartridges on return line |

CYLINDERS

| | |
|---------------|------------------|
| Lift cylinder | |
| Bore diameter | 3.5 in (90 mm) |
| Rod diameter | 2.0 in (50 mm) |
| Stroke | 28.4 in (721 mm) |
| Dump cylinder | |
| Bore diameter | 3.5 in (90 mm) |
| Rod diameter | 2.0 in (50 mm) |
| Stroke | 18.0 in (459 mm) |



DIMENSIONS

| | | |
|------------------------------|------------------------------|--------------------|
| Height to – | | |
| A. | Top of ROPS cab | 111.2 in (2824 mm) |
| B. | Wheelbase | 88.6 in (2250 mm) |
| C. | Ground clearance under shaft | 16.0 in (415 mm) |
| C. | Ground clearance under axles | 13.0 in (330 mm) |
| D. | Angle of departure | 35° |
| Width – | | |
| E. | Overall* w/o bucket | 75.2 in (1909 mm) |
| F. | Centerline tread | 60.1 in (1526 mm) |
| Turning radius* – outside | | 156.0 in (3963 mm) |
| Turning angle – | | |
| | From center | 41° |
| | Total angle | 82° |
| Rear axle oscillation, total | | 24° |

NOTE: *Dimensions taken with 14.5 X 20 tires. Additional dimensions on pages 3 & 4.

PERFORMANCE DATA

| 121E Versa-Boom | 1.0 yd³ GP (0.9 m³) Bucket w/Bolt-on Edge | 1.05 yd³ GP (0.8 m³) Bucket w/Bolt-on Edge |
|--|--|---|
| SAE bucket capacity – struck | 0.85 yd ³ (0.65 m ³) | 0.85 yd ³ (0.65 m ³) |
| Heaped | 1.18 yd ³ (0.90 m ³) | 1.05 yd ³ (0.80 m ³) |
| Bucket width – outside | 80.7 in (2050 mm) | 80.7 in (2050 mm) |
| Bucket weight | 919 lb (417 kg) | 875 lb (397 kg) |
| G. Operating height – fully raised w/spillguard | 168.7 in (4285 mm) | 166.8 in (4237 mm) |
| H. Hinge pin height – fully raised | 130.0 in (3302 mm) | 130.0 in (3302 mm) |
| J. Overall length – bucket level on ground | 216.0 in (5485 mm) | 214.0 in (5435 mm) |
| Dump angle – fully raised | 44° | 44° |
| K. Dump height – fully raised, 45° dump | 100.3 in (2549 mm) | 101.7 in (2584 mm) |
| L. Bucket reach – fully raised, 45° dump | 32.4 in (823 mm) | 31.0 in (787 mm) |
| M. Bucket reach – 7 ft 0 in (2.13 m) height, 45° dump | 45.7 in (1160 mm) | 45.2 in (1148 mm) |
| N. Dig depth | 2.4 in (60 mm) | 2.3 in (60 mm) |
| Operating load – ISO | 3,397 lb (1541 kg) | 3,408 lb (1546 kg) |
| Maximum material density – ISO | 2,886 lb/yd ³ (1713 kg/m ³) | 3,257 lb/yd ³ (1932 kg/m ³) |
| Tipping load – ISO | | |
| Straight | 7,673 lb (3480 kg) | 7,691 lb (3489 kg) |
| Straight w/optional counterweight | 8,235 lb (3735 kg) | 8,253 lb (3744 kg) |
| 40° turn | 6,795 lb (3082 kg) | 6,815 lb (3091 kg) |
| 40° turn w/optional counterweight | 7,270 lb (3297 kg) | 7,209 lb (3306 kg) |
| Lift capacity – | | |
| Full height | 5,988 lb (2716 kg) | 6,034 lb (2737 kg) |
| Maximum reach | 8,240 lb (3738 kg) | 8,283 lb (3757 kg) |
| Ground | 12,134 lb (5504 kg) | 12,173 lb (5522 kg) |
| Breakout force w/tilt cylinder | 9,337 lb (4235 kg) | 10,024 lb (4547 kg) |
| Maximum rollback – | | |
| Ground | 46° | 46° |
| Carry position | 51° | 51° |
| @ Maximum reach | 53° | 53° |
| @ Full height | 54° | 54° |
| Maximum grading angle w/bucket – back dragging | 106° | 105° |
| Loader clearance circle | 352.1 in (8945 mm) | 351.1 in (8918 mm) |

INSTRUMENTATION

Electronic Information Center

Displays/Gauges –

Fuel level

Hourmeter

Engine oil

Indicator lights –

Hydraulic oil temperature

Alternator

Work lights*

Brake pressure

Parking brake

Air conditioning*

Air filter restriction

Travel direction F/R

Speed range selected

High beam lights

Turn signal indicator

Engine oil temperature

Engine oil pressure

Preheating indicator lamp

Audible alarms –

Caution alarm

Critical alarm

Backup alarm

Horn

NOTE: *If equipped with option.

OPERATOR ENVIRONMENT

Cab w/heat

Key start

Articulated power steering w/tilt column

Fully adjustable, cloth suspension seat

Foot throttle

Single lever electronic speed shift control,
F/N/R switch in loader control handle

Cup holder

Retractable seat belt

Storage tray

Sun screen – front

Defroster

Opening side window – 180°

Dome light

Wipers rear & front

12-volt auxiliary power

External rearview mirrors

R.H. steps

Coat hook

Loader control lockout

LOADER

Versa-Boom loader linkage

Single control for lift and tilt

Positive hold float

Hydraulic skid steer compatible
attachment coupler

CYCLE TIME

Raise w/rated bucket load 6.0 sec

Dump w/rated bucket load

Versa-Boom 1.0 sec

Lower (empty)

Float down 3.0 sec

SERVICE CAPACITIES

Fuel tank 26.4 gal (100 L)

Hydraulic system

Total 17.7 gal (67 L)

Reservoir 10.5 gal (40 L)

Front and rear axle

Total axle (each) 2.4 gal (9.3 L)

Engine oil w/filter 2.6 gal (10.0 L)

OPERATING WEIGHTS

Versa-Boom

Unit equipped with ROPS cab with heater,
standard counterweight, 14.5 X 20 Dunlop tires,
front and rear fenders, 1.05 yd³ (0.8 m³) general
purpose loader bucket w/edge, full fuel, 165 lb
(75 kg) operator 10,849 lb (4921 kg)

With optional
counterweight 11,268 lb (5066 kg)

STANDARD EQUIPMENT

OPERATOR'S ENVIRONMENT

See page 4

ENGINE

Deutz F4M2011
Fuel filter w/water trap
Dual element air cleaner
55 amp alternator
(1) 750 CCA 12-volt battery
Liquid-cooled radiator

LOADER

See page 4

OPTIONAL EQUIPMENT

OPERATOR'S COMPARTMENT

Rotating beacon
Limited slip option, rear axle
Air conditioning
High Travel Speed (HTS)
 0-21 MPH (0-35 km/hr)
Radio ready antenna and speakers
Hinged window
Open ROPS

OTHER

(2) Rear flood lights
Tool box

DRIVETRAIN

4-wheel drive
Hydrostatic transmission
Single lever electronic speed shift control,
F/N/R switch in loader control handle
Outboard planetary axles
Limited slip differential, front axle
Transmission oil cooler
Hydraulic dry disc brakes
Mechanical parking brake

HYDRAULICS

3-spool loader control valve
(8) Diagnostic quick couplers
Auxiliary hydraulics

LOADER

Buckets (see page 3)
 General Purpose
 4-IN-1
 Forks
Ride control

OTHER

Front and rear fenders
Lights –
 (2) Front flood lights
 (2) Front driving headlights (high/low beam)
 (2) Stop/tail lights and backup light
 Front and rear turn signal/flash
Drawbar pin
Articulation locking pin
Tie-down points – front/rear
Backup alarm
Wired for radio
Bucket position indicator

TIRES

365/80 R20 STP9

COUNTERWEIGHT

320 lb (145 kg)
Mounts on rear chassis

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NOTE: All specifications are stated in accordance with SAE Standards or Recommended Practices, where applicable.

NOTE: All engines meet current EPA emissions requirements.

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