

ENGINE & ANCILLARIES

Yanmar TNV98T

Configuration
4 cylinder

Aspiration
Turbo Charged

Emission Level
Tier II

Governed Power
57 kW

Governed Speed
2 200 rpm

Displacement
3 319 cc

Fuel Filter Type
In-line water separator with separate spin on fuel filter.

Fuel Filter
5 µm

Coolant Capacity (Engine only)
4 litres

Radiator
Easy access and easy to clean. Agricultural spec fine dust tolerant - wide fin spacing.

Fuel Tank
Secure, lockable ground level filling. Integrated into lower section of the frame to keep a low centre of gravity.

Fuel Tank Capacity
100 litres

Air Cleaner Type
Radial Seal 2-stage primary and secondary filters, both fed by a self cleaning pre-cleaner. The system has a dash mounted restriction indicator.

HYDRAULIC SYSTEM

Hydrostatic Drive System
Servo controlled Variable displacement closed loop system.

Wheel Drive System
Robust, proven Bell planetary hub driven by high displacement radial piston motor with fail to safe spring applied hydraulically released multidisc wet brake.

Wheel Drive Make & Model
Bell #29P

Service Brake
Hydrostatic braking through the closed loop system.

Hydraulic Implement Pump 1
Maximum Flow at Engine
Rated Speed
60,9 l/min

Hydraulic Implement Pump 1
Maximum Intermittent Pressure
241 bar

Hydraulic Implement Pump 1
Use
Boom lift & lower

Hydraulic Implement Pump 2
Maximum Flow at Engine
Rated Speed
39,4 l/min

Hydraulic Implement Pump 2
Maximum Intermittent Pressure
280 bar

Hydraulic Implement Pump 2
Maximum Continuous Pressure
250 bar

Hydraulic Implement Pump 2
Use
Attachment - Grapple Open/Close, Tele Ext in/out and Rotator.

Tank
Integrated within the tubular frame

Tank Capacity
140 litres

Tank Breather
Remote to filler cap, 3 micron rating, 0.75 bar pressure.

Hydraulic Cooler Air Fin Spacing
Easy to clean wide fin spacing

ELECTRICAL
System
12 volt system with a single maintenance free battery mounted in the rear of the machine above the tail wheel.

Alternator Output
12 v 80 Amp

Starter Motor Rating
12 v 3,0 kW

Fuse Box
Blade fuses located inside the cabin in the instrumentation box.

Battery
Maintenance free gel filled battery 100 Amp Hour rating.

Battery Isolator
Single pole type with lock out mounted onto the right hand side of the frame.

Work Lights
8 lights in total. 4 Facing forwards, 2 facing rearwards, 1 facing side ways on each side of the frame.

Strobe Light
Mounted on the rear of frame

Interior lights
LED mounted inside the cab and inside the engine bay.

ESTIMATED OPERATING WEIGHTS WITH STANDARD OPTIONS

Unladen		
Front:		4 309 kg
Rear:		1 656 kg
Total:		5 965 kg
Laden	Boom In	Boom Out
Front:	6 562 kg	6 293 kg
Rear:	955 kg	712 kg
Total:	7 517 kg	7 005 kg

Working Load Limit
1 568 kg 1 051 kg

Tipping Load
1 725 kg 1 157 kg

GRAPPLE

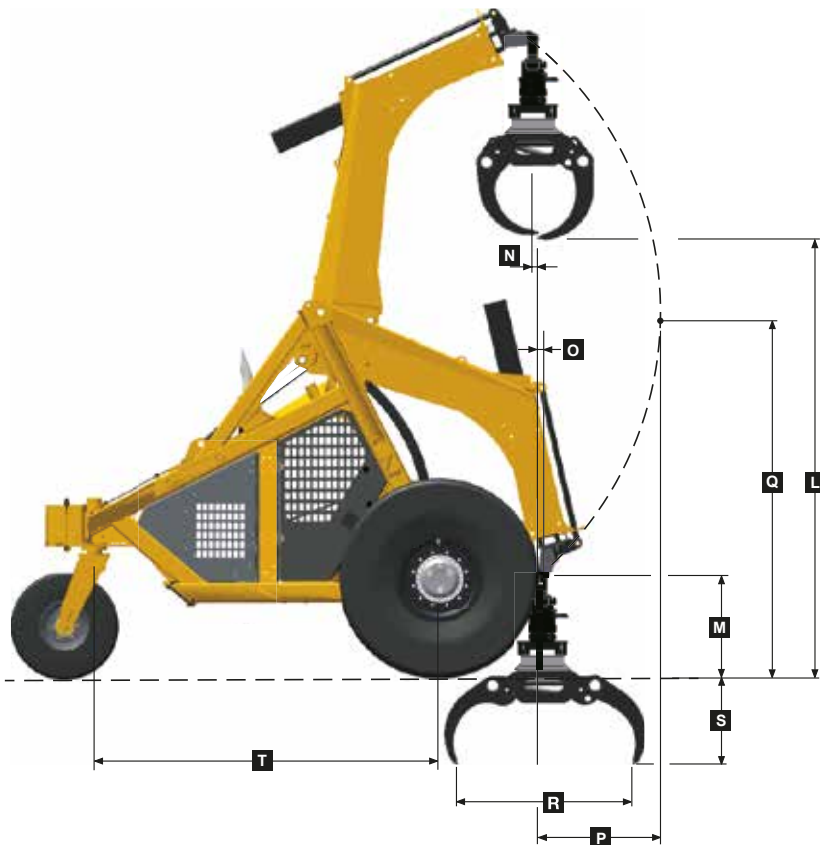
Matriarch LX42
(Matriarch LX36 as an option)

Note: Tyre sizes indicated represent available tyres at printing. Please ensure your choice is available at time of ordering.

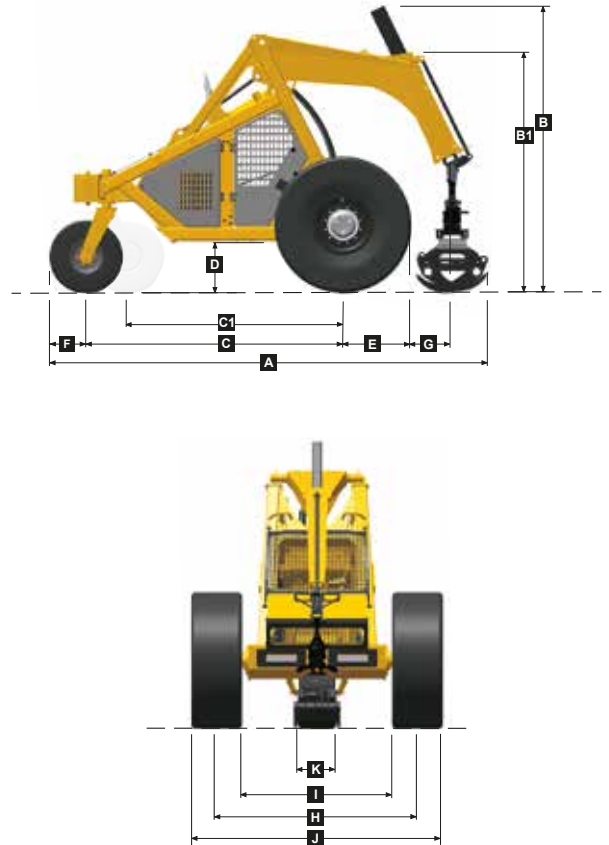
- Low capital outlay
- Low operating cost due to few working parts
 - Low fuel consumption
 - Simple to maintain
 - Multi-purpose unit
- Highly manoeuvrable

I Dimensions

OPERATING POSITION



TRANSPORT POSITION



MACHINE DIMENSIONS

A	Length - Transport - LX36 Grapple Closed, Teleboom Retracted	5 175 mm	I3	18.4/15 x 30 (Option 2)	1 846 mm
A	Length - Transport - LX36 Grapple Closed, Teleboom Extended	6 232 mm	I4	18.4 x 34 (Option 3)	1 851 mm
A	Length - Transport - LX42 Grapple Closed, Teleboom Retracted	5 331 mm	I5	18.4 x 26 (Option 4-Dual Wheelset)	1 687 mm
A	Length - Transport - LX42 Grapple Closed, Teleboom Extended	6 363 mm	J	Width over Tyres-Front	
B	Height - Transport - LX36 Grapple Closed, Teleboom Retracted	3 397 mm	J1	23.1 x 26 (Std Wheelset)	2 982 mm
B1	Height - Transport - LX36 Grapple Closed, Teleboom Extended	3 367 mm	J2	18.4 x 26 (Option 1)	2 746 mm
B	Height - Transport - LX42 Grapple Closed, Teleboom Retracted	3 468 mm	J3	18.4/15 x 30 (Option 2)	2 778 mm
B1	Height - Transport - LX42 Grapple Closed, Teleboom Extended	3 426 mm	J4	18.4 x 34 (Option 3)	2 787 mm
C	Front Axle Centre to Tailwheel Axle Centre	3 030 mm	J5	18.4 x 26 (Option 4-Dual Wheelset)	3 675 mm
C1	Front Axle Centre to Tailwheel Axle Centre	2 546 mm	K	Tyre Width - Tailwheel	
D	Ground Clearance - Front Axle Box	578 mm	K1	400 x 15.5 (Std Wheelset)	385 mm
E	Front Tyre - Free Radius (Free Diameter)		K2	18 x 15.5 (Option 1)	450 mm
E1	23.1 x 26 (Std Wheelset)	807,5 mm (Ø1 615)	L	Load Over Height - LX36 Grapple, Teleboom Retracted	3 547 mm
E2	18.4 x 26 (Option 1)	729 mm (Ø1 458)	L	Load Over Height - LX36 Grapple, Teleboom Extended	3 955 mm
E3	18.4/15 x 30 (Option 2)	774,5 mm (Ø1 549)	L	Load Over Height - LX42 Grapple, Teleboom Retracted	3 441 mm
E4	18.4 x 34 (Option 3)	837,5 mm (Ø1 675)	L	Load Over Height - LX42 Grapple, Teleboom Extended	3 849 mm
E5	18.4 x 26 (Option 4-Dual Wheelset)	729 mm (Ø1 458)	M	Grapple Pivot Height - Boom Down Position, Teleboom Retracted	816 mm
F	Tailwheel - Free Radius (Free Diameter)		M	Grapple Pivot Height - Boom Down Position, Teleboom Extended	142 mm
F1	400 x 15.5 (Std Wheelset)	432 mm (Ø864)	N	Reach-Grapple Pivot - Boom Up Position, Teleboom Retracted	27 mm
F2	18 x 15.5 (Option 1)	490 mm (Ø980)	N	Reach-Grapple Pivot - Boom Up Position, Teleboom Extended	866 mm
G	Reach - Grapple Pivot @ Ground Level - LX36, Teleboom Retracted	481 mm	O	Reach-Grapple Pivot - Boom Down Position, Teleboom Retracted	39 mm
G	Reach - Grapple Pivot @ Ground Level - LX36, Teleboom Extended	1 538 mm	O	Reach-Grapple Pivot - Boom Down Position, Teleboom Extended	255 mm
G	Reach - Grapple Pivot @ Ground Level - LX42, Teleboom Retracted	561 mm	P	Maximum Reach - Grapple Pivot, Teleboom Retracted	1 042 mm
G	Reach - Grapple Pivot @ Ground Level - LX42, Teleboom Extended	1 593 mm	P	Maximum Reach - Grapple Pivot, Teleboom Extended	1 942 mm
H	Track Width - Front		Q	Height - Grapple Pivot @ Maximum Reach, Teleboom Retracted	2 964 mm
H1	23.1 x 26 (Std Wheelset)	2 382 mm	Q	Height - Grapple Pivot @ Maximum Reach, Teleboom Extended	2 964 mm
H2	18.4 x 26 (Option 1)	2 279,5 mm	R	LX36 Grapple Open	1 414 mm
H3	18.4/15 x 30 (Option 2)	2 312 mm	R	LX42 Grapple Open	1 577 mm
H4	18.4 x 34 (Option 3)	2 319 mm	S	Maximum Reach - Below Ground - LX36 Grapple, Teleboom Retracted	714 mm
H5	18.4 x 26 (Option 4-Dual Wheelset)	2 681 mm	S	Maximum Reach - Below Ground - LX36 Grapple, Teleboom Extended	1 672 mm
I	Inside Tyre Width - Front		S	Maximum Reach - Below Ground - LX42 Grapple, Teleboom Retracted	768 mm
I1	23.1 x 26 (Std Wheelset)	1 782 mm	S	Maximum Reach - Below Ground - LX42 Grapple, Teleboom Extended	1 725 mm
I2	18.4 x 26 (Option 1)	1 813 mm	T	Front Axle Centre to Tailwheel Pivot Centre	2 788 mm

NOTE: Please refer to 225F for Crank option dimensions.

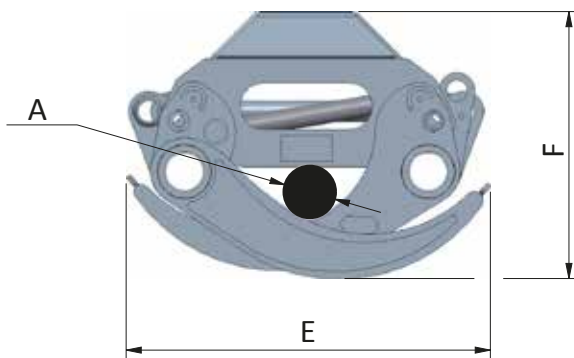
All dimensions are Unladen values based on the Standard Wheelsets and Grapple U.O.N.

Negative (-) dimension value denotes position below ground level or behind front of wheel, whichever is applicable.

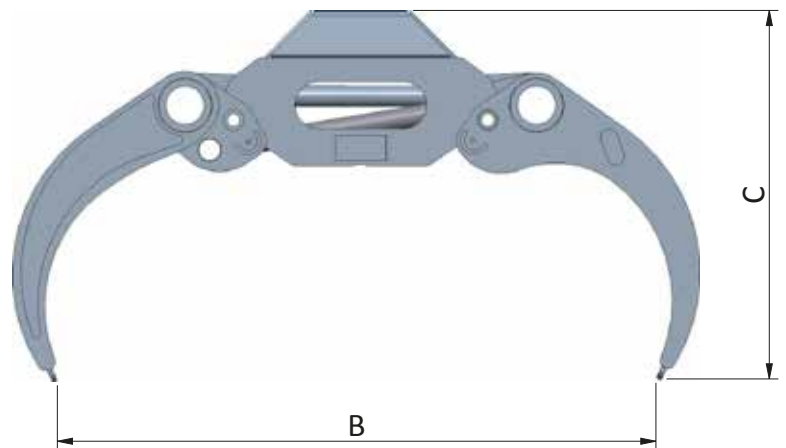
Grapple Dimensions & Operating Weights

Bell Grapple Dimensions Dimensions in millimeters U.O.N			
		Matriarch LX36	Matriarch LX42
A	Min. Closed Diameter	106	111
B	Grapple Open	1 630	1 783
C	Grapple Height - Open	823	893
D	Grapple Height - Tip to Tip	983	1 066
E	Grapple Closed	948	1 040
F	Grapple Height - Closed	625	669
G	Width Outer Tines	448	448
	Tip to Tip Area	0.36 m ²	0.42 m ²
	Weight - No Damper	222 kg	247 kg

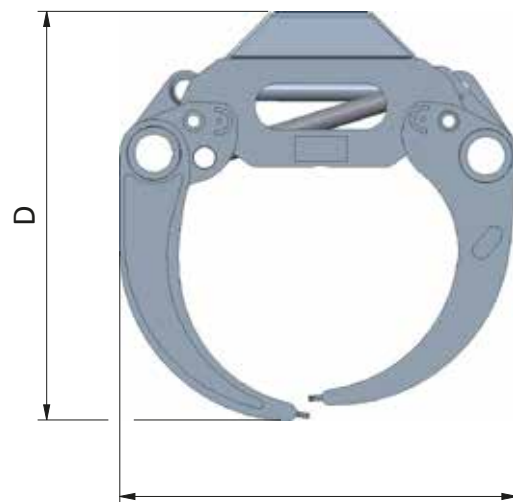
Operating Weights		
	Working Load Limit	Tipping Load
225F Crank Logger	1 273 kg	1 400 kg
225F HP Tele Logger		
Boom In	1 568 kg	1 725 kg
Boom Out	1 051 kg	1 157 kg
125F Cane Loader	1 100 kg	1 210 kg
225F Forklift	3 500 kg	-



GRAPPLE CLOSED POSITION



GRAPPLE OPEN POSITION



GRAPPLE TIP TO TIP POSITION

Cab Options



	225F Crank Logger	225F HP Tele Logger	125F Cane Loader	225F Forklift	CAB TRIM	Engine Doors	Cab Doors	Windscreen	Cab Door Glass	Roof Lining	Sound Kit >85dB	Air Conditioning
●	▲	●	▲		Basic option	✓	✗	✗	✗	✗	✗	✗
▲	▲	▲	●		Cab doors (no glazing)	✓	✓	✗	✗	✗	✗	✗
▲	▲	■	▲		Windscreen & wiper/washer	✓	✗	✓	✗	✗	✗	✗
▲	▲	■	▲		Windscreen & wiper/washer with cab doors (no glazing in doors)	✓	✓	✓	✗	✗		
▲	●	■	▲		Full Deluxe (full glazing)	✓	✓	✓	✓	✓	✓	✓

- STANDARD
- ▲ OPTION
- NOT AVAILABLE
- ✓ INCLUDED
- ✗ NOT INCLUDED

Features and Options

● STANDARD ▲ OPTION - NOT AVAILABLE

	225F Crank Logger	225F HP Tele Logger	125F Cane Loader	225F Forklift	
FRONT WHEELSETS					
●	▲	▲	▲	▲	460/85-30 T410
▲	▲	●	●	●	18.4 x 26 12 Ply
▲	▲	▲	-	-	Dual, 18.4 x 26 12 Ply
▲	●	-	-	-	23.1-26 T418FS
REAR WHEELSETS					
●	▲	●	▲	▲	400/60-15.5 T404
▲	●	▲	-	-	18.0 x 15.5 EcoAgri
-	-	-	●	●	400/60-15.5 BKT TR822 14Ply
SEAT					
●	▲	●	●	●	Unsuspended Lap Belt
▲	●	▲	▲	▲	Suspended
▲	▲	▲	▲	▲	Unsuspended 4 Point Harness
ATTACHMENT					
-	▲	-	-	-	Matriarch LX36
▲	●	-	-	-	Matriarch LX42
-	-	●	-	-	Cane Grab
-	-	-	●	●	Fork-lift with 1.2, Wide Carriage
-	-	-	▲	▲	Fork-lift with 2.5, Wide Carriage
-	-	-	POA	POA	Fork-lift with Brick Clamp
-	-	-	POA	POA	Fork-lift with Tyre Clamp
WORK LIGHTS					
●	●	●	●	●	Halogen Lights
▲	▲	▲	▲	▲	LED 1800L
▲	▲	▲	▲	▲	LED 3500L
BOOM					
-	-	●	-	-	Cane Boom
●	▲	-	-	-	Crank Boom
▲	●	-	-	-	Tele Boom
▲	▲	-	-	-	Ext Tele Boom
COUNTER WEIGHT					
▲	▲	●	▲	▲	1 Weight
●	▲	▲	▲	▲	4 Weights
▲	●	▲	▲	▲	6 Weights
▲	▲	▲	●	▲	7 Weights
MISCELLANEOUS					
●	▲	●	●	●	Rear View Side Mirrors <i>(Note: not available if Log Rest Option is selected)</i>
▲	▲	-	▲	▲	Door Proximity Switches
▲	●	-	-	-	Log Rest
▲	▲	▲	▲	▲	Fire Extinguisher Bracket

	225F Crank Logger	225F HP Tele Logger	125F Cane Loader	225F Forklift	
WARNING LIGHTS/INSTRUMENTATION					
●	●	●	●	●	Hydraulic charge filter bypass
●	●	●	●	●	Engine oil pressure
●	●	●	●	●	Engine coolant temperature high
●	●	●	●	●	Hydraulic oil temperature high
●	●	●	●	●	Air cleaner blocked
●	●	●	●	●	Low fuel
●	●	●	●	●	Battery charge
●	●	●	●	●	Cold start
●	●	●	●	●	Park brake active
▲	▲	▲	▲	▲	Reverse Camera
▲	▲	▲	▲	▲	Fleetm@tic®
SWITCHES					
●	●	●	●	●	Ignition (key)
●	●	●	●	●	Hour metre
●	●	●	●	●	Park brake
●	●	●	●	●	Horn
●	●	●	●	●	Interior lights
●	●	●	●	●	Cold start aid
●	●	●	●	●	Battery isolator
SENSORS					
●	●	●	●	●	Low fuel level
▲	▲	▲	▲	▲	Door open proximity switch (if doors are fitted)
●	●	●	●	●	Air cleaner blocked
●	●	●	●	●	Hydraulic charge filter bypass
●	●	●	●	●	Engine oil pressure
●	●	●	●	●	Engine coolant temp
●	●	●	●	●	Hydraulic oil temperature
▲	▲	▲	▲	▲	Reverse alarm
CAB (see page 15 for details)					
●	▲	●	▲	▲	Basic option
▲	▲	▲	●	▲	Cab doors (no glazing)
▲	▲	-	▲	▲	Windscreen and wiper/washer
▲	▲	-	▲	▲	Windscreen and wiper/washer with cab doors (no glazing in doors)
▲	●	-	▲	▲	Full deluxe (full glazing)
LANGUAGE					
●	▲	●	●	●	English
▲	▲	▲	▲	▲	French
▲	●	▲	▲	▲	Spanish

Please note that all information supplied in this brochure is intended to assist the customer in understanding the general applications of Bell Equipment's F-series machines.


Performance information is intended for estimating purposes only. Due to the many variables unique to individual operations such as weather, terrain, ground conditions, operator productivity, etc neither Bell Equipment Company nor its Dealers warrant that the machines described will perform as estimated.

Due to Bell Equipment's policy of constant product improvement, specifications are subject to change without notice.


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