M323F

Railroad Wheeled Excavator

Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

Table of Contents

M323F Railroad Wheeled Excavator Specifications

Engine

Engine Model	Cat® C4.4
Engine Power	
ISO 14396:2002	129 kW
ISO 14396:2002 (metric)	176 hp (PS)
Net Power	
ISO 9249:2014	127 kW
ISO 9249:2014 (metric)	173 hp (PS)
Bore	105 mm
Stroke	127 mm
Displacement	4.4 L
Number of Cylinders – In Line	4
Biodiesel Capability	Up to B20[1]

- Meets EU Stage V emission standards.
- Rated speed 1,900 rpm.
- Net power advertised is the power available at the flywheel when engine is equipped with air cleaner, Cat Clean Emission Module (CEM) exhaust gas aftertreatment, alternator, and cooling fan running at intermediate speed.
- No deratings required up to 3000 m altitude. Automatic derating occurs after 3000 m.

[1]Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:

- ✓ 20% biodiesel FAME (fatty acid methyl ester)*
- ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

**Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.*

Swing Mechanism

Maximum Swing Speed	11 rpm
Maximum Swing Torque	42 kN·m

Weights

Operating Weights*	22 900 kg–23 900 kg
Stick	
2000 mm	600 kg
Counterweights	
Standard	6400 kg
Optional	7400 kg

* Operating weight includes short stick, full fuel tank, operator, no quick coupler, no bucket and dual pneumatic tires. Weight varies based on configuration.

Tires

Standard	10.00-20 (Dual Pneumatic)

Drive

Maximum Gradeability (22 900 kg)	53%
Maximum Travel Speed – Road Mode	20 km/h
Maximum Travel Speed – Rail Mode	20 km/h
Drawbar Pull – Road Mode	104 kN
Drawbar Pull – Rail Mode	45 kN

Hydraulic System

Tank Capacity	122 L
System	240 L
Maximum Pressure – Implement Circuit	
Normal	35 000 kPa
Heavy Lift	37 500 kPa
Travel Circuit	35 000 kPa
Maximum Pressure – Auxiliary Circuit	
High Pressure	35 000 kPa
Medium Pressure	18 500 kPa
Swing Mechanism	37 000 kPa
Maximum Flow	
Implement/Travel Circuit	260 L/min
Auxiliary Circuit	
High Pressure	260 L/min
Medium Pressure	70 L/min
Swing Mechanism	90 L/min

Service Refill Capacities

Fuel Tank Capacity	240 L
Cooling System	30 L
Engine Crankcase	13 L
Rear Axle Housing (differential)	11.2 L
Front Steering Axle (differential)	9 L
Final Drive	2.4 L
Powershift Transmission	2.5 L
Diesel Exhaust Fluid (DEF) Tank	19 L

Standards

Cab/ROPS	ISO 12117-2:2008

Rail Power Train

Rail Wheel (UIC profile)	Ø632 mm
Track Width	1435 mm
Park Brake (integrated in motor)	Multi-disc
Tire Ground Clearance on Rail	184 mm

Undercarriage

Road Ground Clearance	370 mm
Rail Ground Clearance	184 mm
Maximum Steering Angle	35°
Oscillation Axle Angle	±8.5°
Minimum Turning Radius:	
Outside of Tire	6300 mm
End of Variable Adjustable Boom	7100 mm

Sound Performance

Operator Sound	
2000/14/EC, ISO 6396:2008	71 dB(A)
Spectator Sound	
2000/14/EC, ISO 6395:2008	103 dB(A)

- The operator sound level is measured according to the procedures specified in 2000/14/EC and ISO 6396:2008, for a cab offered by Caterpillar, when properly installed, maintained, and tested with the door and windows closed.
- The external sound level is measured according to the test procedures and conditions specified in 2000/14/EC as amended by 2005/88/EC.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

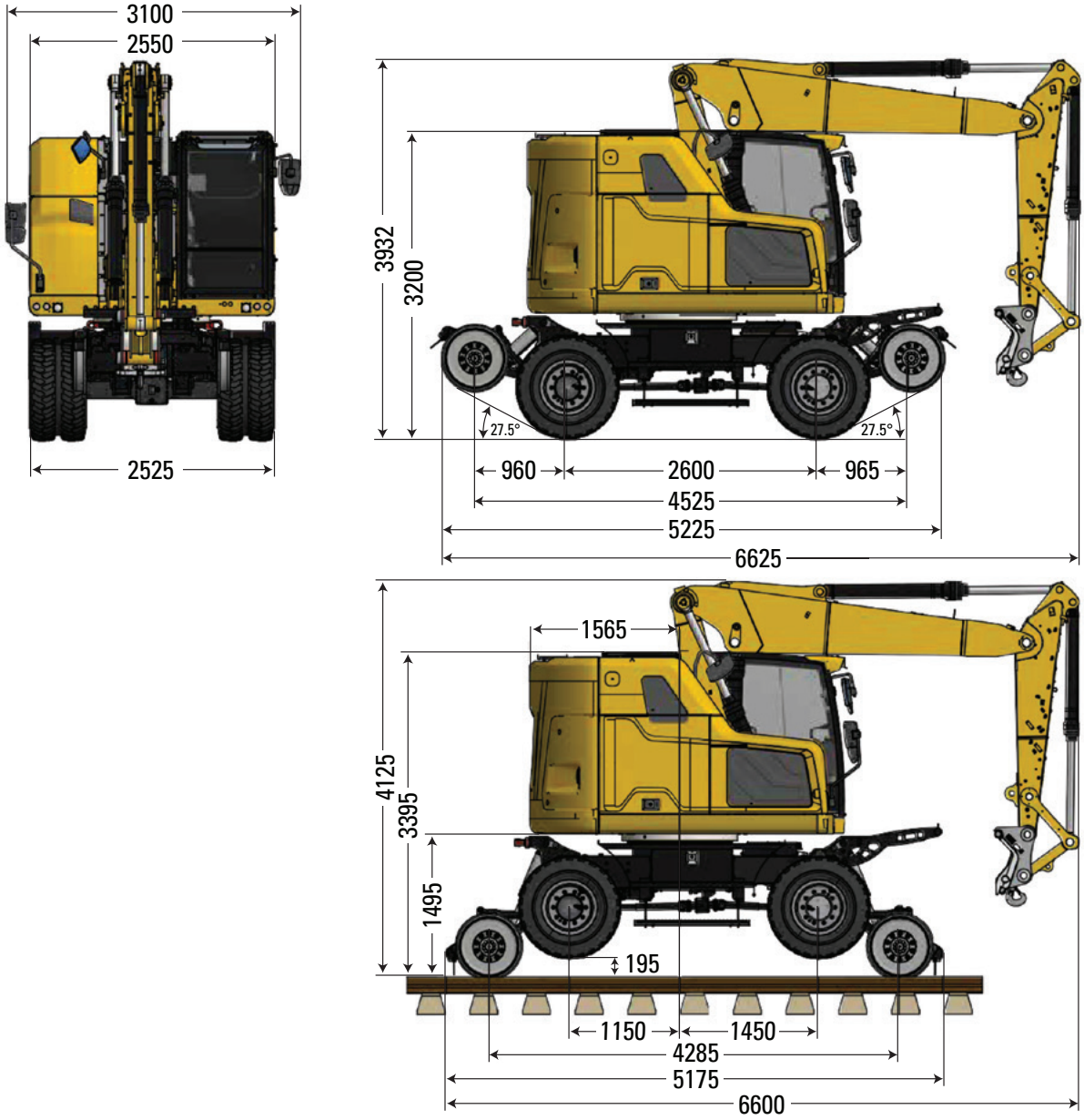
Vibration Levels

Maximum Hand/Arm (ISO 5349-2001)	<2.5 m/s^2
Maximum Whole Body (ISO/TR 25398:2006)	<0.5 m/s^2
Seat Transmissibility Factor (ISO 7096:2000-spectral class EM5)	<0.7 m/s^2

M323F Railroad Wheeled Excavator Specifications

Dimensions

All dimensions are approximate and may vary depending on bucket selection.



Boom Option	Variable Adjustable
Stick Option	**2.0 m**
Top of Cab Height:	
Road Mode	3200 mm
Rail Mode	3395 mm
Shipping Height:	
With Boom/Stick Installed	3932 mm
Shipping Length:	
With Boom/Stick Installed	6600 mm

Boom Option	Variable Adjustable
Stick Option	**2.0 m**
Upper Frame Width without Walkways	2550 mm
Tail Swing Radius	1565 mm
Counterweight Clearance:	
Road Mode	1305 mm
Rail Mode	1495 mm
Bucket Capacity	0.35 m^3–0.91 m^3

Work Mode Dimensions

All dimensions are approximate and may vary depending on stick position.

Work Mode – Parallel to Track

	Overhead Line Clearance of 3920 mm
1 Swing Center to Stick Pin	7360 mm
2 Overall Height	3920 mm
3 Tool Point to Rail	3280 mm
	Overhead Line Clearance of 4280 mm
1 Swing Center to Stick Pin	7080 mm
2 Overall Height	4280 mm
3 Tool Point to Rail	3503 mm

Work Mode – Swing at 90°

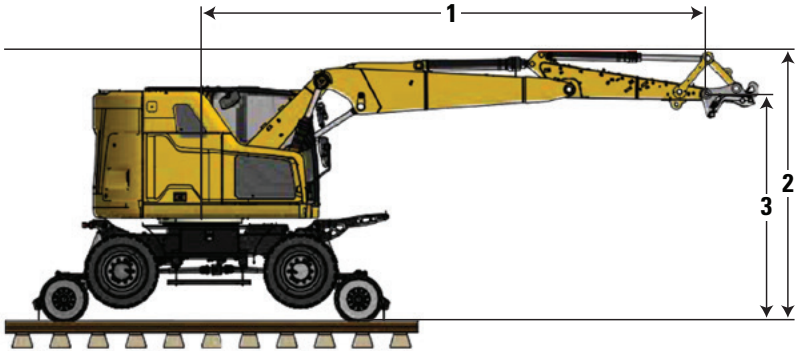
	Overhead Line Clearance of 3920 mm
4 Overall Height	3920 mm
5 Tool Point to Rail	1280 mm
6 Swing Center to Tool Point	5400 mm
	Overhead Line Clearance of 4280 mm
4 Overall Height	4280 mm
5 Tool Point to Rail	1620 mm
6 Swing Center to Tool Point	5400 mm

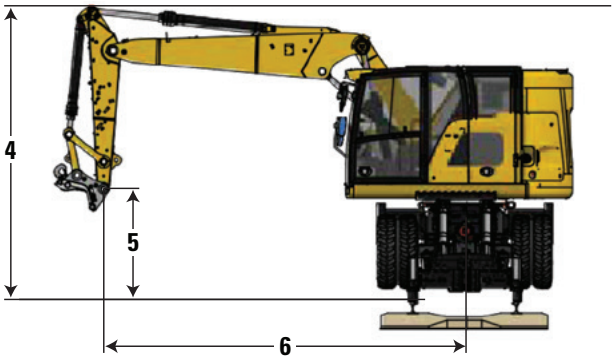
Traveling Mode

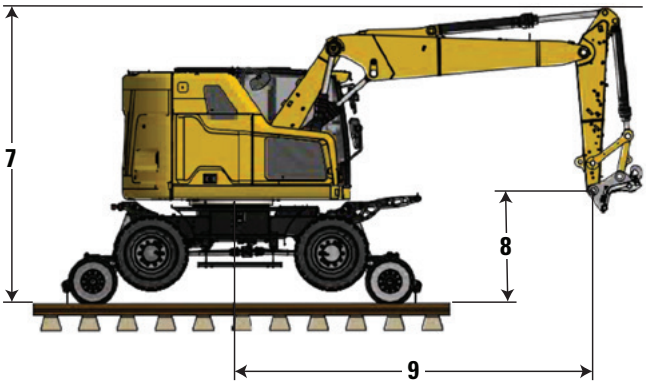
	Overhead Line Clearance of 3920 mm
7 Overall Height	3920 mm
8 Tool Point to Rail	1275 mm
9 Swing Center to Tool Point	5400 mm
	Overhead Line Clearance of 4280 mm
7 Overall Height	4280 mm
8 Tool Point to Rail	1620 mm
9 Swing Center to Tool Point	5400 mm

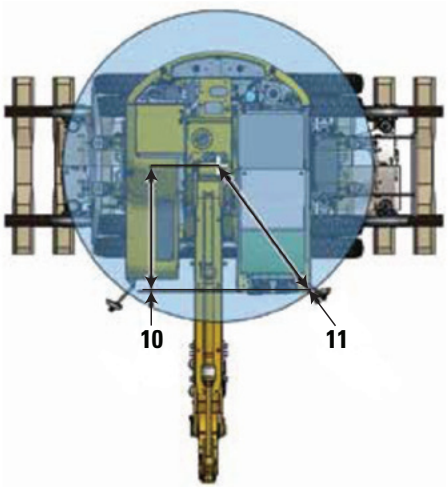
Work Mode – Swing Rotation

10 Swing Center to Machine Front	1715 mm
11 Swing Center to Machine Front Corner	2130 mm



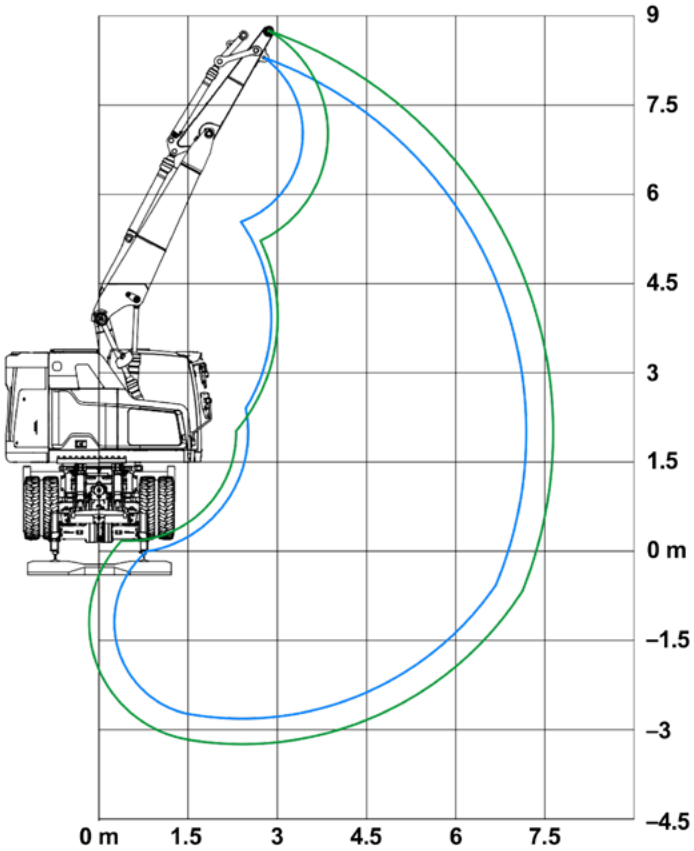






M323F Railroad Wheeled Excavator Specifications

Working Ranges



Boom Type	Variable Adjustable
Stick Length	**2000 mm**
Digging Height	10 190 mm
Digging Depth	4730 mm
Reach	9100 mm
Reach at Ground Level	8870 mm
Height at Tool Point	8740 mm
Height at Auxiliary Lifting Point (ALP)	8290 mm
Reach at Tool Point at Ground Level	7350 mm
Bucket Digging Force (ISO 6015)	160 kN
Stick Digging Force (ISO 6015)	83 kN

- Range values are calculated with GD bucket 1100 mm, 0.80 m³ with tips K080 and CW-20-H.4.N quick coupler with a tip radius of 1574 mm. Breakout force values are calculated with heavy lift on (no quick coupler) and a cutting edge tip radius of 1237 mm.

Lift Capacities – Variable Adjustable Boom – Counterweight: 6.4 t – Road Mode

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

 Load at maximum reach (stick nose/bucket pin/ALP)  Load over front  Load over rear  Load over side  Load point height  Road or Rail oscillating axle locked  Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	5500							*5450	*5450	4500	5050
	ALP													*6900	*6900	5700	4300
6000 mm	TOOL POINT				*6750	*6750	*6050	*5500	4100	3500				*4500	3650	3100	6410
	ALP													*5650	4150	3500	5850
4500 mm	TOOL POINT	*9950	*9950	*9750	*7300	6200	5450	*5400	4100	*4150				*4200	3000	2550	7180
	ALP	*10 300	*10 300	*9600	*7650	6000	5350	*5650	4000	3400				4300	3300	2800	6700
3000 mm	TOOL POINT	*10 000	*10 000	*9400	*8400	5750	5300	*5850	3950	3550	3600	2800	2350	*4100	2750	2300	7560
	ALP				*8250	5750	*5800	*5850	3950	3350				3850	2950	2500	7110
1500 mm	TOOL POINT	*12 000	*12 000	*9000	*7900	5800	*5950	5000	3800	3450	3550	2750	2300	3500	2700	2250	7620
	ALP				*8250	5750	5150	5000	3850	3300				3750	2900	2400	7160
0 mm	TOOL POINT	*14 050	10 500	8950	7350	5400	5050	4900	3750	3300				3650	2800	2350	7350
	ALP				7600	5650	5000	4850	3700	3150				3950	3000	2500	6880
–1500 mm	TOOL POINT	*14 500	10 350	8850	7650	5650	4950	4900	3700	3150					3350	2800	6470
	ALP				7500	5600	4800								3800	3200	5860
–3000 mm	TOOL POINT			8900													
	ALP																

Lift Capacities – Variable Adjustable Boom – Counterweight: 7.4 t – Road Mode

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

 Load at maximum reach (stick nose/bucket pin/ALP)  Load over front  Load over rear  Load over side  Load point height  Road or Rail oscillating axle locked  Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	5950							*5450	*5450	*5450	5050
	ALP													*6900	*6900	*6900	4300
6000 mm	TOOL POINT				*6750	*6750	*6050	*5500	4450	3800				*4500	*4500	3400	6410
	ALP													*5650	4500	3850	5850
4500 mm	TOOL POINT	*9950	*9950	*9750	*7300	*7300	*5950	*5400	4450	*4150				*4200	3300	2800	7180
	ALP	*10 300	*10 300	*9600	*7650	6500	*5850	*5650	4350	3700				*5250	3600	3100	6700
3000 mm	TOOL POINT	*10 000	*10 000	*9400	*8400	6250	*5800	*5850	4300	*4150	*4350	3050	2600	*4100	3000	2550	7560
	ALP				*8250	6250	*5800	*5850	4300	3650				4200	3250	2750	7110
1500 mm	TOOL POINT	*12 000	*12 000	*9000	*7900	6300	*5950	*6200	4200	3750	3900	3000	2550	*4250	2950	2500	7620
	ALP				*8250	6250	*6300	5400	4150	3650				4100	3150	2700	7160
0 mm	TOOL POINT	*14 050	11 400	9750	7950	5900	5500	5300	4050	3600				*4000	3050	2600	7350
	ALP				8200	6100	5450	5300	4050	3500				4300	3300	2800	6880
–1500 mm	TOOL POINT	*14 500	11 300	9650	8250	6200	5400	5300	4100	3500					3650	3100	6470
	ALP				8150	6050	5250								4150	3550	5860
–3000 mm	TOOL POINT			9700													
	ALP																

* Limited by hydraulic rather than tipping load. Values are calculated using the stub boom. Under certain front linkage positions, it is possible to increase lifting capacities using the variable adjustable boom (fore boom) and the stick cylinders.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. Lifting capacities with load over side are calculated with optimized position of the front linkage. Values at the auxiliary lifting point (ALP) with a reach under 4500 mm are calculated with the stick positioned vertically. Values at tool point with a reach set at 3000 mm are calculated with the stick folded back towards the machine, additional lowering control valve on stick cylinder head end is required for load lifting.

For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M323F Railroad Wheeled Excavator Specifications

Lift Capacities – Variable Adjustable Boom – Counterweight: 6.4 t – Rail Mode – UIC and Broad Gauge – Level Track (Cant: 0 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

 Load at maximum reach (stick nose/bucket pin/ALP)  Load over front  Load over rear  Load over side  Load point height  Road or Rail oscillating axle locked  Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	4050							*5450	*5450	3300	5050
	ALP													*6900	*6900	4150	4300
6000 mm	TOOL POINT				*6750	*6750	4100	*5500	*5500	2550				*4500	*4500	2250	6410
	ALP													*5650	*5650	2550	5850
4500 mm	TOOL POINT	*9950	*9950	6900	*7300	*7300	4000	*5400	*5400	2600				*4200	*4200	1800	7180
	ALP	*10 300	*10 300	6800	*7650	*7650	3900	*5650	*5650	2450				*5250	*5250	2000	6700
3000 mm	TOOL POINT	*10 000	*10 000	6600	*8400	*8400	3900	*5850	*5850	2600	*4350	*4350	1650	*4100	*4100	1600	7560
	ALP				*8250	*8250	3850	*5850	*5850	2400				*5200	*5200	1750	7110
1500 mm	TOOL POINT	*12 000	*12 000	6500	*7900	*7900	3850	*6200	*6200	2500	*4700	*4700	1600	*4250	*4250	1550	7620
	ALP				*8250	*8250	3750	*6250	*6250	2350				*4800	*4800	1650	7160
0 mm	TOOL POINT	*14 050	*14 050	6150	*8700	*8700	3600	*6350	*6350	2350				*4000	*4000	1600	7350
	ALP				*8900	*8900	3550	*6250	*6250	2250				*4250	*4250	1750	6880
–1500 mm	TOOL POINT	*14 500	*14 500	6050	*9000	*9000	3500	*5500	*5500	2250				*4200	*4200	2000	6470
	ALP				*8400	*8400	3400							*4700	*4700	2250	5860
–3000 mm	TOOL POINT			6100													
	ALP																

Lift Capacities – Variable Adjustable Boom – Counterweight: 7.4 t – Rail Mode – UIC and Broad Gauge – Level Track (Cant: 0 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

 Load at maximum reach (stick nose/bucket pin/ALP)  Load over front  Load over rear  Load over side  Load point height  Road or Rail oscillating axle locked  Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	4450							*5450	*5450	3650	5050
	ALP													*6900	*6900	4550	4300
6000 mm	TOOL POINT				*6750	*6750	4500	*5500	*5500	2850				*4500	*4500	2500	6410
	ALP													*5650	*5650	2800	5850
4500 mm	TOOL POINT	*9950	*9950	7550	*7300	*7300	4400	*5400	*5400	2900				*4200	*4200	2050	7180
	ALP	*10 300	*10 300	7400	*7650	*7650	4300	*5650	*5650	2750				*5250	*5250	2250	6700
3000 mm	TOOL POINT	*10 000	*10 000	7250	*8400	*8400	4250	*5850	*5850	2850	*4350	*4350	1900	*4100	*4100	1850	7560
	ALP				*8250	*8250	4250	*5850	*5850	2700				*5200	*5200	2000	7110
1500 mm	TOOL POINT	*12 000	*12 000	7200	*7900	*7900	4200	*6200	*6200	2800	*4700	*4700	1850	*4250	*4250	1800	7620
	ALP				*8250	*8250	4150	*6250	*6250	2650				*4800	*4800	1900	7160
0 mm	TOOL POINT	*14 050	*14 050	6800	*8700	*8700	4000	*6350	*6350	2650				*4000	*4000	1850	7350
	ALP				*8900	*8900	3950	*6250	*6250	2500				*4250	*4250	2000	6880
–1500 mm	TOOL POINT	*14 500	*14 500	6700	*9000	*9000	3900	*5500	*5500	2500				*4200	*4200	2250	6470
	ALP				*8400	*8400	3800							*4700	*4700	2500	5860
–3000 mm	TOOL POINT			6750													
	ALP																

* Limited by hydraulic rather than tipping load. Values are calculated using the stub boom. Under certain front linkage positions, it is possible to increase lifting capacities using the variable adjustable boom (fore boom) and the stick cylinders.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. Lifting capacities with load over side are calculated with optimized position of the front linkage. Values at the auxiliary lifting point (ALP) with a reach under 4500 mm are calculated with the stick positioned vertically. Values at tool point with a reach set at 3000 mm are calculated with the stick folded back towards the machine, additional lowering control valve on stick cylinder head end is required for load lifting.

For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lift Capacities – Variable Adjustable Boom – Counterweight: 6.4 t – Rail Mode – UIC and Broad Gauge – Level Track (Cant: 200 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

Load at maximum reach (stick nose/bucket pin/ALP) | Load over front | Load over rear | Load over side | Load point height | Road or Rail oscillating axle locked | Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	2600							*5450	*5450	2100	5050
	ALP													*6900	*6900	2100	4300
6000 mm	TOOL POINT				*6750	*6750	2700	*5500	*5500	1600				*4500	*4500	1350	6410
	ALP													*5650	*5650	1350	5850
4500 mm	TOOL POINT	*9950	*9950	4550	*7300	*7300	2600	*5400	*5400	1650				*4200	*4200	1050	7180
	ALP	*10 300	*10 300	3550	*7650	*7650	2250	*5650	*5650	1350				*5250	*5250	1050	6700
3000 mm	TOOL POINT	*10 000	*10 000	4350	*8400	*8400	2550	*5850	*5850	1650	*4350	*4350	950	*4100	*4100	950	7560
	ALP				*8250	*8250	2300	*5850	*5850	1400				*5200	*5200	950	7110
1500 mm	TOOL POINT	*12 000	*12 000	4400	*7900	*7900	2550	*6200	*6200	1600	*4700	*4700	950	*4250	*4250	950	7620
	ALP				*8250	*8250	2350	*6250	*6250	1450				*4800	*4800	950	7160
0 mm	TOOL POINT	*14 050	*14 050	4100	*8700	*8700	2400	*6350	*6350	1500				*4000	*4000	1000	7350
	ALP				*8900	*8900	2400	*6250	*6250	1400				*4250	*4250	1100	6880
–1500 mm	TOOL POINT	*14 500	*14 500	4100	*9000	*9000	2350	*5500	*5500	1450				*4200	*4200	1250	6470
	ALP				*8400	*8400	2400							*4700	*4700	1500	5860
–3000 mm	TOOL POINT			4250													
	ALP																

Lift Capacities – Variable Adjustable Boom – Counterweight: 7.4 t – Rail Mode – UIC and Broad Gauge – Level Track (Cant: 200 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

Load at maximum reach (stick nose/bucket pin/ALP) | Load over front | Load over rear | Load over side | Load point height | Road or Rail oscillating axle locked | Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	2900							*5450	*5450	2350	5050
	ALP													*6900	*6900	2350	4300
6000 mm	TOOL POINT				*6750	*6750	3000	*5500	*5500	1800				*4500	*4500	1550	6410
	ALP													*5650	*5650	1550	5850
4500 mm	TOOL POINT	*9950	*9950	5050	*7300	*7300	2900	*5400	*5400	1900				*4200	*4200	1250	7180
	ALP	*10 300	*10 300	3950	*7650	*7650	2500	*5650	*5650	1550				*5250	*5250	1250	6700
3000 mm	TOOL POINT	*10 000	*10 000	4850	*8400	*8400	2850	*5850	*5850	1900	*4350	*4350	1150	*4100	*4100	1100	7560
	ALP				*8250	*8250	2550	*5850	*5850	1600				*5200	*5200	1150	7110
1500 mm	TOOL POINT	*12 000	*12 000	4850	*7900	*7900	2850	*6200	*6200	1850	*4700	*4700	1150	*4250	*4250	1100	7620
	ALP				*8250	*8250	2650	*6250	*6250	1650				*4800	*4800	1150	7160
0 mm	TOOL POINT	*14 050	*14 050	4600	*8700	*8700	2700	*6350	*6350	1700				*4000	*4000	1150	7350
	ALP				*8900	*8900	2650	*6250	*6250	1650				*4250	*4250	1250	6880
–1500 mm	TOOL POINT	*14 500	*14 500	4600	*9000	*9000	2650	*5500	*5500	1650				*4200	*4200	1450	6470
	ALP				*8400	*8400	2750							*4700	*4700	1750	5860
–3000 mm	TOOL POINT			4750													
	ALP																

* Limited by hydraulic rather than tipping load. Values are calculated using the stub boom. Under certain front linkage positions, it is possible to increase lifting capacities using the variable adjustable boom (fore boom) and the stick cylinders.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. Lifting capacities with load over side are calculated with optimized position of the front linkage. Values at the auxiliary lifting point (ALP) with a reach under 4500 mm are calculated with the stick positioned vertically. Values at tool point with a reach set at 3000 mm are calculated with the stick folded back towards the machine, additional lowering control valve on stick cylinder head end is required for load lifting.

For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M323F Railroad Wheeled Excavator Specifications

Lift Capacities – Variable Adjustable Boom – Counterweight: 6.4 t – Rail Mode – Metric Track – Level Track (Cant: 0 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

Load at maximum reach (stick nose/bucket pin/ALP) | Load over front | Load over rear | Load over side | Load point height | Road or Rail oscillating axle locked | Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	2950							*5450	*5450	2350	5050
	ALP													*6900	*6900	3000	4300
6000 mm	TOOL POINT				*6750	*6750	3000	*5500	*5500	1800				*4500	*4500	1550	6410
	ALP													*5650	*5650	1800	5850
4500 mm	TOOL POINT	*9950	*9950	4900	*7300	*7300	2900	*5400	*5400	1900				*4200	*4200	1250	7180
	ALP	*10 300	*10 300	4800	*7650	*7650	2850	*5650	*5650	1750				*5250	*5250	1350	6700
3000 mm	TOOL POINT	*10 000	*10 000	4600	*8400	*8400	2800	*5850	*5850	1850	*4350	*4350	1100	*4100	*4100	1100	7560
	ALP				*8250	*8250	2750	*5850	*5850	1700				*5200	*5200	1150	7110
1500 mm	TOOL POINT	*12 000	*12 000	4550	*7900	*7900	2750	*6200	*6200	1800	*4700	*4700	1050	*4250	*4250	1050	7620
	ALP				*8250	*8250	2650	*6250	*6250	1650				*4800	*4800	1100	7160
0 mm	TOOL POINT	*14 050	*14 050	4200	*8700	*8700	2550	*6350	*6350	1650				*4000	*4000	1050	7350
	ALP				*8900	*8900	2500	*6250	*6250	1500				*4250	*4250	1150	6880
–1500 mm	TOOL POINT	*14 500	*14 500	4100	*9000	*9000	2450	*5500	*5500	1500				*4200	*4200	1300	6470
	ALP				*8400	*8400	2350							*4700	*4700	1500	5860
–3000 mm	TOOL POINT			4150													
	ALP																

Lift Capacities – Variable Adjustable Boom – Counterweight: 7.4 t – Rail Mode – Metric Track – Level Track (Cant: 0 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

Load at maximum reach (stick nose/bucket pin/ALP) | Load over front | Load over rear | Load over side | Load point height | Road or Rail oscillating axle locked | Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	3300							*5450	*5450	2650	5050
	ALP													*6900	*6900	3350	4300
6000 mm	TOOL POINT				*6750	*6750	3350	*5500	*5500	2050				*4500	*4500	1800	6410
	ALP													*5650	*5650	2050	5850
4500 mm	TOOL POINT	*9950	*9950	5450	*7300	*7300	3200	*5400	*5400	2100				*4200	*4200	1450	7180
	ALP	*10 300	*10 300	5300	*7650	*7650	3150	*5650	*5650	1950				*5250	*5250	1550	6700
3000 mm	TOOL POINT	*10 000	*10 000	5150	*8400	*8400	3150	*5850	*5850	2100	*4350	*4350	1300	*4100	*4100	1250	7560
	ALP				*8250	*8250	3100	*5850	*5850	1900				*5200	*5200	1350	7110
1500 mm	TOOL POINT	*12 000	*12 000	5100	*7900	*7900	3050	*6200	*6200	2000	*4700	*4700	1250	*4250	*4250	1200	7620
	ALP				*8250	*8250	3000	*6250	*6250	1900				*4800	*4800	1300	7160
0 mm	TOOL POINT	*14 050	*14 050	4700	*8700	*8700	2850	*6350	*6350	1900				*4000	*4000	1250	7350
	ALP				*8900	*8900	2850	*6250	*6250	1750				*4250	*4250	1350	6880
–1500 mm	TOOL POINT	*14 500	*14 500	4650	*9000	*9000	2800	*5500	*5500	1750				*4200	*4200	1550	6470
	ALP				*8400	*8400	2650							*4700	*4700	1750	5860
–3000 mm	TOOL POINT			4700													
	ALP																

* Limited by hydraulic rather than tipping load. Values are calculated using the stub boom. Under certain front linkage positions, it is possible to increase lifting capacities using the variable adjustable boom (fore boom) and the stick cylinders.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. Lifting capacities with load over side are calculated with optimized position of the front linkage. Values at the auxiliary lifting point (ALP) with a reach under 4500 mm are calculated with the stick positioned vertically. Values at tool point with a reach set at 3000 mm are calculated with the stick folded back towards the machine, additional lowering control valve on stick cylinder head end is required for load lifting.

For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lift Capacities – Variable Adjustable Boom – Counterweight: 6.4 t – Rail Mode – Metric Track – Track (Cant: 105 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

Load at maximum reach (stick nose/bucket pin/ALP) | Load over front | Load over rear | Load over side | Load point height | Road or Rail oscillating axle locked | Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	1700							*5450	*5450	1350	5050
	ALP													*6900	*6900	1700	4300
6000 mm	TOOL POINT				*6750	*6750	1800	*5500	*5500	1050				*4500	*4500	900	6410
	ALP													*5650	*5650	1000	5850
4500 mm	TOOL POINT	*9950	*9950	2900	*7300	*7300	1800	*5400	*5400	1150				*4200	*4200	700	7180
	ALP	*10 300	*10 300	2800	*7650	*7650	1750	*5650	*5650	1000				*5250	*5250	750	6700
3000 mm	TOOL POINT	*10 000	*10 000	2850	*8400	*8400	1800	*5850	*5850	1200	*4350	*4350	600	*4100	*4100	600	7560
	ALP				*8250	*8250	1750	*5850	*5850	1000				*5200	*5200	650	7110
1500 mm	TOOL POINT	*12 000	*12 000	3000	*7900	*7900	1850	*6200	*6200	1150	*4700	*4700	600	*4250	*4250	600	7620
	ALP				*8250	*8250	1750	*6250	*6250	1050				*4800	*4800	600	7160
0 mm	TOOL POINT	*14 050	*14 050	2900	*8700	*8700	1750	*6350	*6350	1050				*4000	*4000	650	7350
	ALP				*8900	*8900	1700	*6250	*6250	950				*4250	*4250	700	6880
–1500 mm	TOOL POINT	*14 500	*14 500	3050	*9000	*9000	1750	*5500	*5500	1000				*4200	*4200	850	6470
	ALP				*8400	*8400	1650							*4700	*4700	1000	5860
–3000 mm	TOOL POINT			3450													
	ALP																

Lift Capacities – Variable Adjustable Boom – Counterweight: 7.4 t – Rail Mode – Metric Track – Track (Cant: 105 mm)

All values are in kg. ALP stands for Auxiliary Lifting Point, located under the stick.

Load at maximum reach (stick nose/bucket pin/ALP) | Load over front | Load over rear | Load over side | Load point height | Road or Rail oscillating axle locked | Load at lift point

Stick
2000 mm

		3000 mm			4500 mm			6000 mm			7500 mm						
																	mm
7500 mm	TOOL POINT				*6800	*6800	1900							*5450	*5450	1550	5050
	ALP													*6900	*6900	1900	4300
6000 mm	TOOL POINT				*6750	*6750	2050	*5500	*5500	1250				*4500	*4500	1050	6410
	ALP													*5650	*5650	1200	5850
4500 mm	TOOL POINT	*9950	*9950	3250	*7300	*7300	2050	*5400	*5400	1300				*4200	*4200	850	7180
	ALP	*10 300	*10 300	3200	*7650	*7650	2000	*5650	*5650	1200				*5250	*5250	900	6700
3000 mm	TOOL POINT	*10 000	*10 000	3250	*8400	*8400	2050	*5850	*5850	1350	*4350	*4350	750	*4100	*4100	750	7560
	ALP				*8250	*8250	2000	*5850	*5850	1200				*5200	*5200	800	7110
1500 mm	TOOL POINT	*12 000	*12 000	3450	*7900	*7900	2100	*6200	*6200	1350	*4700	*4700	750	*4250	*4250	750	7620
	ALP				*8250	*8250	2050	*6250	*6250	1200				*4800	*4800	800	7160
0 mm	TOOL POINT	*14 050	*14 050	3350	*8700	*8700	2000	*6350	*6350	1250				*4000	*4000	800	7350
	ALP				*8900	*8900	1950	*6250	*6250	1150				*4250	*4250	850	6880
–1500 mm	TOOL POINT	*14 500	*14 500	3500	*9000	*9000	2050	*5500	*5500	1200				*4200	*4200	1050	6470
	ALP				*8400	*8400	1950							*4700	*4700	1200	5860
–3000 mm	TOOL POINT			3900													
	ALP																

* Limited by hydraulic rather than tipping load. Values are calculated using the stub boom. Under certain front linkage positions, it is possible to increase lifting capacities using the variable adjustable boom (fore boom) and the stick cylinders.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface. Lifting capacities with load over side are calculated with optimized position of the front linkage. Values at the auxiliary lifting point (ALP) with a reach under 4500 mm are calculated with the stick positioned vertically. Values at tool point with a reach set at 3000 mm are calculated with the stick folded back towards the machine, additional lowering control valve on stick cylinder head end is required for load lifting.

For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M323F Railroad Wheeled Excavator Specifications

Bucket Specifications and Compatibility

					Variable Adjustable Boom			
					2000 mm Stick			
					Road		Rail without Cant	
	Width	Capacity	Weight	Fill	Counterweight		Counterweight	
	mm	m³	kg	%	6.4 t	7.4 t	6.4 t	7.4 t
Without Quick Coupler								
General Duty (GD)	750	0.49	464	100%	●	●	●	●
	1100	0.79	583	100%	◉	●	○	⊖
	1200	0.91	651	100%	⊖	◉	◇	○
Maximum load with pin-on (payload + bucket)				kg	2000	2250	1600	1800
With Pin Grabber Quick Coupler								
General Duty (GD)	750	0.49	464	100%	●	●	●	●
	1100	0.79	583	100%	◉	●	○	⊖
	1200	0.91	651	100%	⊖	◉	◇	○
Maximum load with pin-on (payload + bucket – coupler)				kg	2000	2250	1600	1800
With Quick Coupler (CW/CWs)								
Ditch Cleaning (DC)	1800	1.14	646	100%	○	○	X	◇
	2100	1.45	738	100%	◇	◇	X	X
General Duty (GD)	600	0.35	421	100%	●	●	●	●
	750	0.49	454	100%	●	●	●	●
	900	0.62	514	100%	●	●	◉	●
	1100	0.79	573	100%	◉	●	○	⊖
	1200	0.91	623	100%	⊖	◉	◇	○
Heavy Duty (HD)	1200	0.91	649	100%	⊖	◉	◇	○
Maximum load with coupler (payload + bucket – coupler)				kg	2000	2250	1600	1800
With TR14 (Tilt Rotator)								
General Duty (GD)	600	0.35	421	100%	●	●	●	●
	750	0.49	454	100%	●	●	●	●
	900	0.62	514	100%	●	●	◉	●
	1100	0.79	573	100%	◉	●	○	⊖
	1200	0.91	623	100%	⊖	◉	◇	○
	1300	1.00	653	100%	○	⊖	◇	○
	1400	1.09	683	100%	○	⊖	X	◇
Maximum load with coupler (payload + bucket – coupler)				kg	2000	2250	1600	1800

Capacity based on ISO 7451:2007.
Bucket weight with General Duty tips.
Bucket recommendation based on S54 rail type.
Bucket recommendation based on no rail Cant.
Specialized work tools are available. Please contact your dealer for further information.

Maximum Material Density:
● 2100 kg/m³
◉ 1800 kg/m³
⊖ 1500 kg/m³
○ 1200 kg/m³
◇ 900 kg/m³
X Not Recommended (stability)

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

Attachments Offering Guide*

PIN-ON ATTACHMENTS			
Counterweight		**6.4 t**	**7.4 t**
Boom Type		**Variable Adjustable**	
Stick Length		**2.0 m**	
Hydraulic Hammers	H110Es	✓	✓
	H115Es	✓	✓
	H120Es		✓
Demolition and Sorting Grapples	G310B–D/R		✓
	G310 GC	✓	✓
	G313 GC	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
Tilt Rotators	TRS14-Pin-On/S60	✓	✓
	TRS14-Pin-On/CW	✓	✓
Pin Grabber Couplers	Cat PG	These couplers are available for the M323F.	
Dedicated Quick Couplers	CW-20		
	CW-20s		
CAT PIN GRABBER COUPLER ATTACHMENTS			
Counterweight		**6.4 t**	**7.4 t**
Boom Type		**Variable Adjustable**	
Stick Length		**2.0 m**	
Hydraulic Hammers	H110Es	✓	✓
	H115Es	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
CW-20 COUPLER ATTACHMENTS			
Counterweight		**6.4 t**	**7.4 t**
Boom Type		**Variable Adjustable**	
Stick Length		**2.0 m**	
Hydraulic Hammers	H110Es	✓	✓
	H115Es	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓
CW-20s COUPLER ATTACHMENTS			
Counterweight		**6.4 t**	**7.4 t**
Boom Type		**Variable Adjustable**	
Stick Length		**2.0 m**	
Hydraulic Hammers	H110Es	✓	✓
	H115Es	✓	✓
Compactors (Vibratory Plate)	CVP75	✓	✓

*Offerings not available in all areas. Matches are dependent on Wheeled Excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

D – Demolition shells.

R – Recycling shells.

Attachment recommendation based on S54 rail type.

Attachment recommendation based on no rail Cant.

Specialized work tools are available. Please contact your dealer for further information.

M323F Standard and Optional Equipment

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
UNDERCARRIAGE AND STRUCTURES		
Rail wheels – insulated according to local regulations	✓	
Road and rail all-wheel drive	✓	
6.4 t counterweight	✓	
7.4 t counterweight		✓
Two speed hydrostatic transmission on road or rail	✓	
Independent rail hydrostatic transmission, one motor per rail axle	✓	
Automatic rail axle lock	✓	
Automatic lock mode for oscillating front road axle and service brake	✓	
Heavy-duty rail axles with advanced disc brake system and travel motor with adjustable braking force	✓	
Travel restraint bracket for clamshell/grapple		✓
Towing bar	✓	
Left- and right-side steps	✓	
Lockable box at front top of undercarriage	✓	
One or two additional tool boxes at undercarriage steps		✓
Trailer coupling unit with manual or automatic lock		✓
Roading package		✓

	Standard	Optional
HYDRAULIC SYSTEM		
Adjustable hydraulic sensitivity	✓	
One medium pressure circuit	✓	
Two medium pressure circuits		✓
Dedicated swing pump	✓	
Load sensing hydraulic system	✓	
Programmable flow and pressure for up to 10 attachments	✓	
Auxiliary circuit pedal		✓
Biodegradable hydraulic oil		✓
High pressure circuit control valve	✓	
Heavy lift mode	✓	
Engine Power mode (P) – Augmented hydraulic flow	✓	
Medium pressure auxiliary boom lines	✓	
High pressure auxiliary boom lines	✓	
SAFETY AND SECURITY		
Emergency stop button	✓	
Backup electro-hydraulic pump for rail emergencies	✓	
Temporary Limits Off	✓	
Safety decals for rail certification	✓	
Pneumatic system for rail trailer or rail car brakes		✓
Rear and right-side cameras	✓	
ROPS operator and secondary cab	✓	
Stick lowering control valve (SLCV) and boom lowering control valve (BLCV) including overload warning device	✓	
Pin code engine start prevention	✓	
Variable Adjustable (VA) boom includes foreboom lowering control valve (FLCV)	✓	
Automatic swing brake	✓	
Emergency kit		✓
Emergency coupling unit	✓	

(continued on next page)

Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
BOOM AND STICK		
5.2 m VA boom, 2.0 m stick	✓	
SERVICE AND MAINTENANCE		
Ground-level fuel and engine oil filters and fluid taps	✓	
Centralized lubrication for undercarriage and rail bogies		✓
Auto-lubricating system		✓
ENGINE		
Cat C4.4, Stage V engine	✓	
Altitude 3000 m capability without de-rate	✓	
Electric fuel priming pump	✓	
Automatic starting aid	✓	
ELECTRICAL SYSTEM		
Double alternator (115 A)	✓	
Main shut-off switch	✓	
12V – 10 A power supply in primary and secondary cab	✓	
Two front and two rear roading lights	✓	
Right side, VA boom, and stick working lights		✓
Adjustable travel alarm		✓
Refueling pump	✓	
International Union of Railways (UIC) certified rail lights		✓
Electric and pneumatic signal/ warning horn	✓	
24V – 10 A power supply at stick end		✓
24V – 20 A power socket	✓	
Jump start terminals	✓	
Spare fuses in each fuse box	✓	

	Standard	Optional
PRIMARY CAB		
Bolt-on falling object guard system (FOGS) capability	✓	
Bluetooth® and USB port radio with speakers	✓	
High resolution, full graphic and color instrument panel display	✓	
Pilot operated joysticks	✓	
Air conditioner, heater, and defroster	✓	
24V lighter	✓	
Bottle holder	✓	
Top and bottom mounted, intermittent, parallel wiper and washer	✓	
Washable floor mat with storage compartment	✓	
Interior lighting with door switch	✓	
Tiltable left side console with lock-out for all controls	✓	
Steering lock device	✓	
Adjustable steering column	✓	
Windshield and skylight sunshade	✓	
Cruise control system	✓	
LCD screens for hydrostatic deceleration power and rail trailer brake pressure	✓	
Road/rail mode button and signal	✓	
On/off-tracking control	✓	
Joystick for hydrostatic deceleration	✓	
Power and rail trailer brakes control	✓	
SECONDARY CAB		
Retractable seat belt	✓	
Back door and openable roof for maintenance access to top part of the upper frame	✓	
Rear window emergency exit	✓	
Pneumatic horn control	✓	
Support parts for rail safety devices	✓	

M323F Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit https://www.caterpillar.com/en/company/sustainability.

Engine

- The Cat® C4.4 engine meets EU Stage V emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
  - ✓ 20% biodiesel FAME (fatty acid methyl ester)*
  - ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

  Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

**Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.*

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 0.9 kg (2.0 lb) of refrigerant which has a CO_2 equivalent of 1.287 metric tonnes (1.418 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
  - Barium < 0.01%
  - Cadmium < 0.01%
  - Chromium < 0.01%
  - Lead < 0.01%

Sound Performance

Operator Sound (2000/14/EC, ISO 6396:2008) – 77 dB(A)

Spectator Sound (2000/14/EC, ISO 6395:2008) – 99 dB(A)

- The operator sound level is measured according to the procedures specified in 2000/14/EC and ISO 6396:2008, for a cab offered by Caterpillar, when properly installed, maintained, and tested with the door and windows closed.
- The external sound level is measured according to the test procedures and conditions specified in 2000/14/EC as amended by 2005/88/EC.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO™ Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
  - The C4.4 engine quickly responds to changing loads while delivering the same amount of power regardless of operating conditions
  - Advanced hydraulic systems balance power and efficiency
  - Engine idle shutdown, auto engine speed control, and on-demand cooling system help reduce fuel consumption
  - Maximize efficiency with load-sensing hydraulics which provide fast cycle times
  - Dedicated swing pump helps reduce fuel consumption and allows faster and smoother combined movements

Recycling

- The materials included in machines are categorized as below with approximate weight percentage. Because of variations of product configurations, the following values in the table may vary.

Material Type	Weight Percentage
Steel	73.32%
Iron	14.78%
Nonferrous Metal	1.81%
Mixed Metal	0.06%
Mixed-Metal and Nonmetal	0.00%
Plastic	1.64%
Rubber	1.93%
Mixed Nonmetallic	1.02%
Fluid	1.56%
Other	1.78%
Uncategorized	2.20%
Total	100%

- A machine with higher recyclability rate will ensure more efficient usage of valuable natural resources and enhance End-of-Life value of the product. According to ISO 16714 (Earthmoving machinery – Recyclability and recoverability –Terminology and calculation method), recyclability rate is defined as percentage by mass (mass fraction in percent) of the new machine potentially able to be recycled, reused, or both.

  All parts in the bill of material are first evaluated by component type based on a list of components defined by the ISO 16714 and Japan CEMA (Construction Equipment Manufacturers Association) standards. Remaining parts are further evaluated for recyclability based on material type.

  Because of variations of product configurations, the following value in the table may vary.

Recyclability – 93%

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

AEXQ2372-01 (08-2022)
Replaces AEXQ2372
(Aus-NZ, Eur)

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.